# DESKPOWER 5000 Series User's Manual

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Fujitsu PC (Asia) Pte Ltd
200 Pandan Loop
#05-03 Pantech 21
The Computer Centre
Singapore 128388

Tel : 65-776 0688
Fax : 65-776 0788

# IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Save these instructions for future reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This will only plug into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed 15 amperes.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points that could result in a fire or electric shock. Never spill liquid of any kind on the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
    e. If the product has been dropped or the cabinet has been damaged.
    f. If the product exhibits a distinct change in performance, indicating a need for service.
14. **CAUTION. When replacing the battery, be sure to install it with the polarities in the correct position. There is a danger of explosion if the battery is replaced with an incorrect type or is mistreated. Do not recharge, disassemble or dispose of in fire. Replace only with the same or equivalent type recommeded by the manufacturer. Dispose of the used battery according to the manufacturer's instructions.**
15. Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, BS1363,ASTA,SS145 certified, rated 10A 250V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

# ■ Greetings

We thank you for purchasing the Fujitsu DESKPOWER 5000 personal computer.
This manual explains how to use the hardware of the DESKPOWER 5000.
Please read this manual carefully to ensure correct use of the DESKPOWER 5000.

This unit may malfunction if the power source is interrupted suddenly, for example, due to lightning. Fujitsu recommends the use of an AC non-interruptible power supply unit.

(Based on guidelines for the prevention of sudden voltage interruptions by Japan Electronic Industry Development Association (JEIDA).

This unit is class B information technology equipment based on the Voluntary Control Council for Interference (VCCI) standard by Information Technology Equipment and may create interference if used near radio or television receivers.
Use the unit in accordance with information provided in the manual.

This unit conforms to the Personal Computer Industry Standard (PC-11-1988) of the Japan Electronic Industry Development Association (JEIDA).

This unit conforms to the harmonic guideline.

Because this product includes cargo based on the “Foreign Exchange and Foreign Trade Control Act,” the export of this product may require permission in accordance with said act.

Fujitsu, who is a participant of the International Energy Star Program, determines that this product conforms to the International Energy Star Program Standard. The International Energy Star Program is an international program for promoting energy conservation of office equipment such as computers and strives to develop and promote products capable of efficient energy use. This program is open to all manufacturers, and the products to be developed include computers, displays, printers, facsimiles, and copy machines. The same standard and markings ( ) are used among participating countries.
The energy-saving function of this product, however, may not be applicable because of limitations with the operating system (such as Windows NT).

## ■ Conventions used in this manual

### ● Warning icons

Various icons and icon/word combinations are used in this manual to encourage users to use the equipment so as to minimize personal risk and prevent property damage. The icons are explained as follows. The user should be familiar with the icons before responding to the corresponding instructions.

**⚠WARNING** Indicates a hazardous situation that could result in fatal or serious wound if the correct procedure is not applied.

**⚠CAUTION** Indicates a hazardous situation that could result in personal injury and/or property damage if the correct procedure is not applied.

The following icons are also used with the above icon/word combinations to prevent personal injury and/or property damage.

The icon △ that indicates the corresponding instruction is a warning. The illustration displayed inside or beside the icon shows what the warning actually means.

The icon ⃠ that indicates the corresponding instruction is a banned action.The illustration displayed inside or beside the icon shows what is actually banned.

The icon ● that indicates the corresponding instruction is a command to proceed. The illustration displayed inside or beside the icon shows what to proceed.

### ● Representing keys and use thereof

In the text of the manual, keyboard keys are represented using only necessary characters as shown below.

Example: [Ctrl] key, [Enter] key, and [→] key

When more than one key is to be pressed simultaneously, the keys are represented using "+" between keys as shown below:

Example: [Ctrl] + [F3] and [Shift] + [↑]

### ● Representing buttons

Buttons displayed on the screen are enclosed in square brackets, [and], as shown below:

Example: [OK]

### ● Command entries

In the text of the manual, a command is represented as shown below:

```
diskcopy a: a:
         ↑ ↑
```

A blank (shown with [↑]) between characters indicates that the [Space] key (long bar on the front of the keyboard) is to be pressed once. Command names are represented in lowercase but may be entered using uppercase letters.

## ● Conventions used in the text of the manual

The symbols used in the text of the manual have meanings as explained below:

**Point** Point indicates information necessary to run hardware or software.

**Help** Help indicates information explaining how to terminate an incorrect operation or troubleshoot.

## ● Screen display examples

Screen displays provided in this manual are examples and may be different from those (including file names) actually appearing on the display screen.

## ● Illustrations

Illustrations in this manual are an example using (mainly) the DESKPOWER 5000 (CD-ROM drive-equipped model) and may be different from those actually appearing on your PC screen depending on the model type and options installed.

## ● Custom-made options

Descriptions in this manual are based on the standard specifications.
Note that when custom-made options are installed, memory capacity, hard disk capacity, and other specifications differ from the standard.

## ● Referencing products

In this manual, products are described using abbreviations as listed below:

Windows 98 refers to Microsoft® Windows® 98 operating system.

Windows NT refers to Microsoft® Windows NT® Workstation operating system Version 4.0.

Windows 2000 refers to Microsoft® Windows® 2000 operating system.

MS-DOS refers to Microsoft(R) MS-DOS(R) operating system Version 6.2/V.

ICU refers to ISA Configuration Utility.

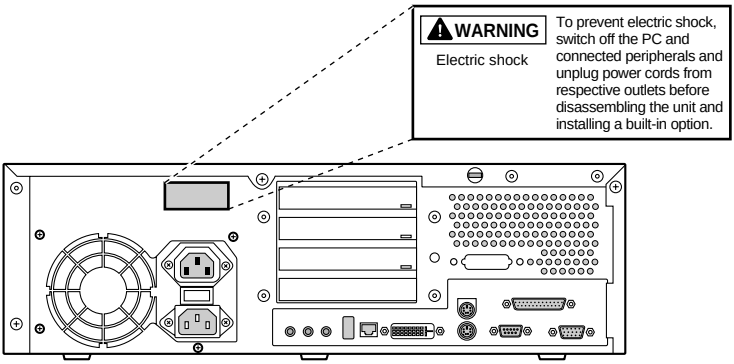
The terms "your PC," "the PC," "your PC main unit," and "the PC main unit" refer to the DESKPOWER 5000

## ■ Warning and caution labels

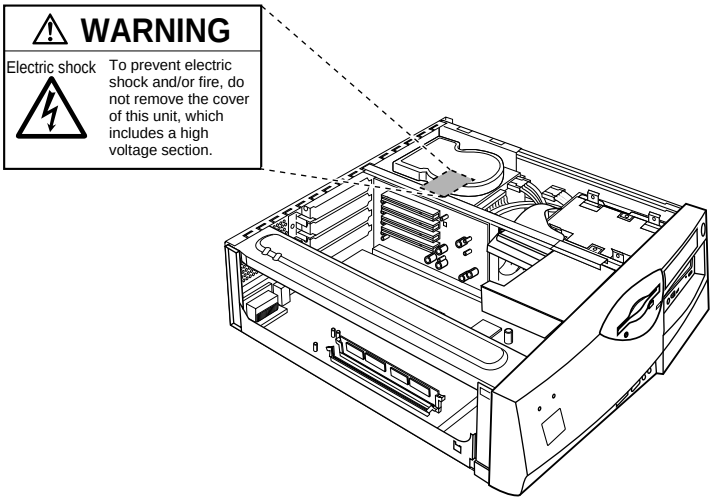
The PC bears warning and caution labels as shown below.

The warning and caution labels must not be removed or damaged.

### ● Rear of the PC main unit


WARNING
Electric shock
To prevent electric shock, switch off the PC and connected peripherals and unplug power cords from respective outlets before disassembling the unit and installing a built-in option.

### ● Inside the PC main unit


WARNING
Electric shock
To prevent electric shock and/or fire, do not remove the cover of this unit, which includes a high voltage section.

**WARNING**

Electric shock

- Before mounting or dismounting an optional unit in/from your PC, switch off the PC and all connected units and unplug all power cords from respective outlets to prevent electric shock.

# Manual configuration

## Chapter 1 Installation and Connection

This chapter outlines precautions that should be noted when installing the PC and explains how to connect various cables.

Consult this chapter before assembling the PC.

## Chapter 2 Basic Operations

This chapter explains basic operations required to use the PC, such as how to switch the power on and off and how to proceed with storage media.

Consult this chapter.

## Chapter 3 Installing Internal Options

This chapter explains how to install internal options such as hard disk and expansion cards.
Consult this chapter as required.

## Chapter 4 Troubleshooting

This chapter explains how to proceed if your PC does not operate correctly or if an error message appears.
Consult this chapter as required.

## Appendix

This appendix provides the name of each component of your PC, information relevant to PC maintenance, the specification of the PC main unit, and a list of precautions.
Consult this appendix.

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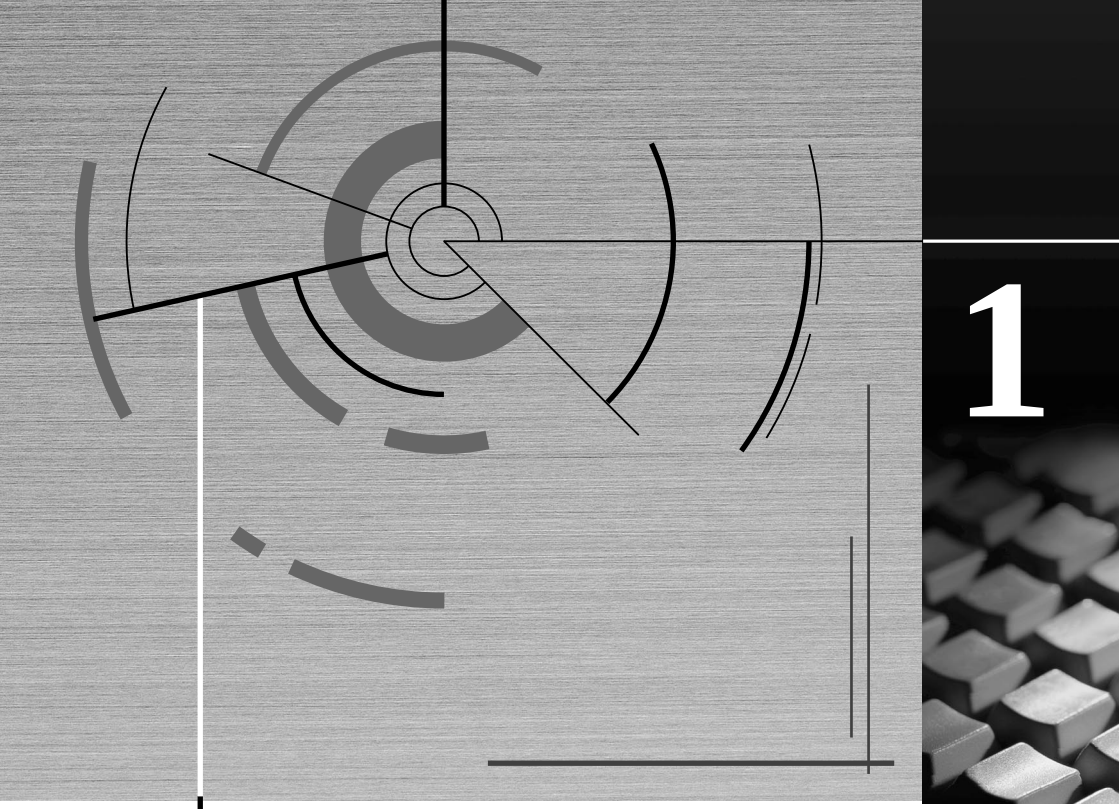



# Chapter 1 Installation and Connection

This chapter outlines precautions that should be noted when installing the PC and explains how to connect various cables.

# 1 Installation

This section provides notes on installing and using the PC.

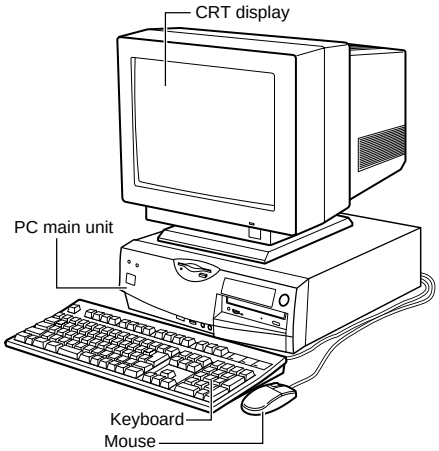
## ■ Installation location

Do not install the PC in the following areas:

- Area exposed to moisture, dust, or smoke
- Area poorly ventilated
- Area having open flames
- Area that may expose the PC to water
- Area exposed to direct sunlight or high temperatures.
- Area having temperatures below 10 ˚C.
- Area that are unusually small or crowded
- Area having a strong magnetic field (close to a TV or speaker)
- Area exposed to strong vibration and areas that are unstable such as an inclined surface

## ■ Example of installing the PC

Install the PC as follows.




### ⊙ Point

Confirm that the ventilation holes at the rear or on the bottom of the PC main unit are not blocked when installing the PC.

## ■ Preventing electromagnetic interference with a TV or radio

Your PC complies with the VCCI Standard restricting electromagnetic interference with a TV or radio. However, the computer may interfere with a TV or radio depending on the installation location.

To prevent the PC from interfering with TV or radio reception, note the following:

### ● Precautions to be taken by the PC user

- Do not use the PC with the cover removed.
- Use the specified cable to connect the PC with a peripheral. Do not use an unauthorized cable.
- After installing a cable, ensure that the connector is firmly attached and the screws (if any) are tight.
- Do not plug the PC in the same outlet as a TV or radio.

### ● Precautions to be taken by the TV or radio

- Do not place a TV or radio near the PC.
- Position TV or radio antennas in such a way that interference is minimized.
- Stay away the antenna line of a TV or radio near from the PC.
- Use coaxial cables as antenna feeders.

If interference with TV or radio reception continues after switching off the PC and peripherals, check the above items again.

# 2 Connection

Connect the display, keyboard, and power cord to your PC main unit

## ⚠WARNING

Electric shock

● To prevent electric shock, ground the device (if required) before providing power to the equipment.
To prevent fire, do not connect the ground wire to a gas pipe.

Electric shock

● To prevent electric shock, unplug the PC main unit and connected equipment before attaching and detaching a CRT display, keyboard, mouse, LAN cables, and power cords.

Electric shock

● To prevent electric shock, fire, and/or malfunction, ensure that the display, keyboard, and mouse are all Fujitsu brand products.

## ⚠CAUTION

Failure

● Ensure that cables are connected correctly. Using the PC and peripherals when connected incorrectly may result in a malfunction.

Fire

● To prevent a fire and/or malfunction, connect only the specified device to the AC service outlet (if provided).

Injury

● To prevent injury and/or malfunction, do not touch PC board components that are not specified.

Connect the LAN cable.
Secure one end of the twisted pair cable (purchased separately) to the LAN connector at the rear of the PC main unit.

Connect the LAN cable.
Secure the other end of the twisted pair cable (purchased separately) to the network connector.

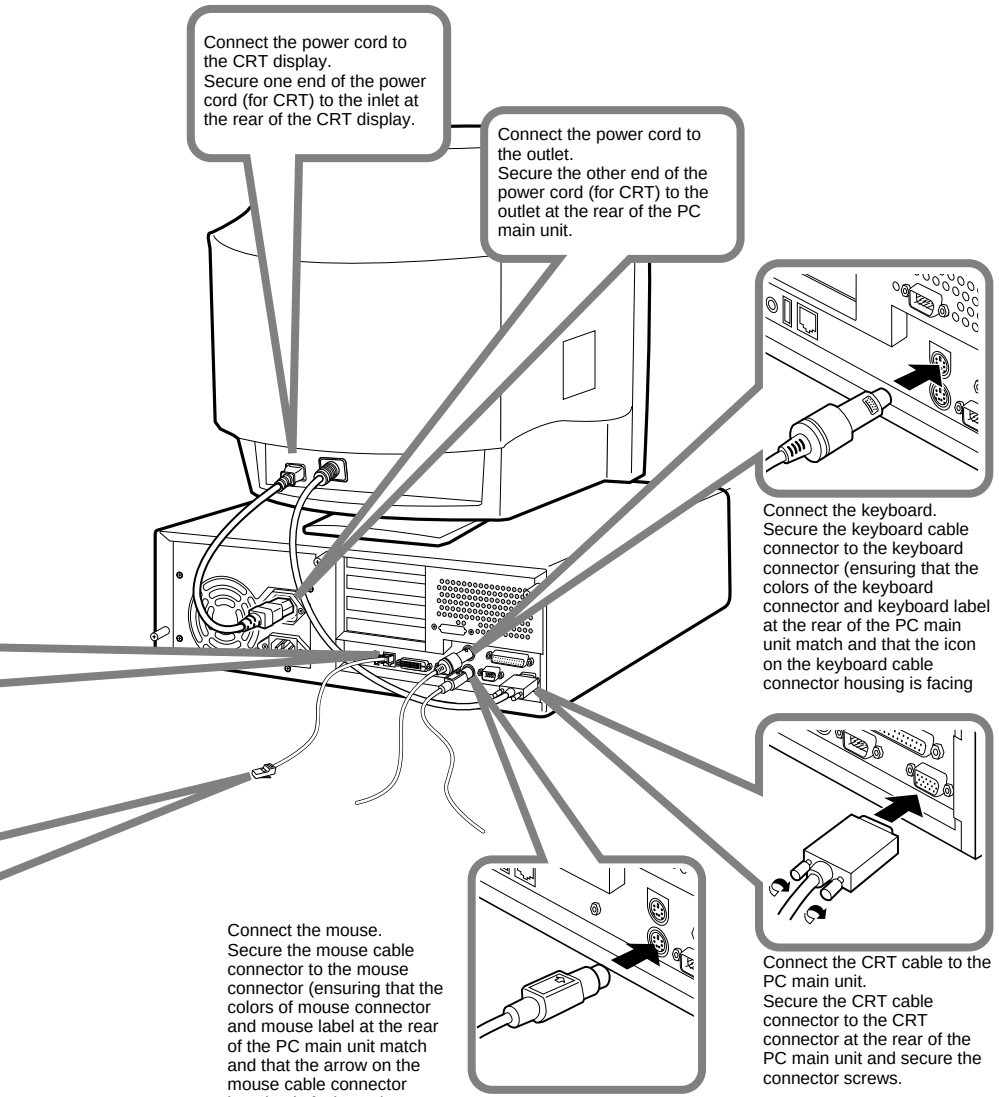
## ⊙ Point

To connect a LAN cable, use a twisted pair cable, which must be purchased separately as it is not included with your PC package.

## ■ Attaching CRT display, keyboard, mouse, and LAN cables

### ⊙ Point

This section explains how to connect the CRT display so as to supply power from the PC main unit. In this case, the power cord included with the CRT display is not used.


Connect the power cord to the CRT display.
Secure one end of the power cord (for CRT) to the inlet at the rear of the CRT display.
Connect the power cord to the outlet.
Secure the other end of the power cord (for CRT) to the outlet at the rear of the PC main unit.
Connect the keyboard.
Secure the keyboard cable connector to the keyboard connector (ensuring that the colors of the keyboard connector and keyboard label at the rear of the PC main unit match and that the icon on the keyboard cable connector housing is facing
Connect the mouse.
Secure the mouse cable connector to the mouse connector (ensuring that the colors of mouse connector and mouse label at the rear of the PC main unit match and that the arrow on the mouse cable connector housing is facing up).
Connect the CRT cable to the PC main unit.
Secure the CRT cable connector to the CRT connector at the rear of the PC main unit and secure the connector screws.

## ■ Connecting the power cord

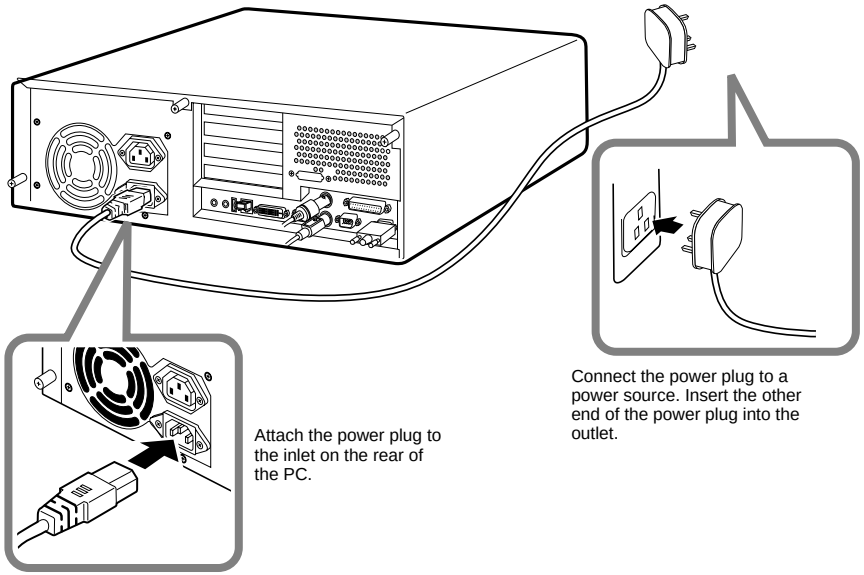
After connecting the display and other peripherals to the PC main unit, note the following when connecting the power cord of the PC main unit.

- Do not plug or unplug the power cord with wet hands.
- Do not damage or remodel the power cord.
- Do not bend, stretch, or place heavy objects on the power cord.
- Do not use the PC if the power cord or plug is damaged
- If the electrodes of the power cord plug or the corresponding outlet is dusty, wipe with a dry cloth.
- Connect the power cord to a household power source.

### ⊙ Point

Do not plug the power cord of your PC in a multiple plug box. Do not entangle the keyboard and mouse cables.

- Unplug all power cords during an electrical storm.
- If only a two-pin outlet is available, use the adapter plug provided and connect the ground wire.
- When unplugging a power cord, secure the plug housing.
- Ensure that the power plug is fully inserted into the outlet.
- Unplug the PC when not being used for a period of time.



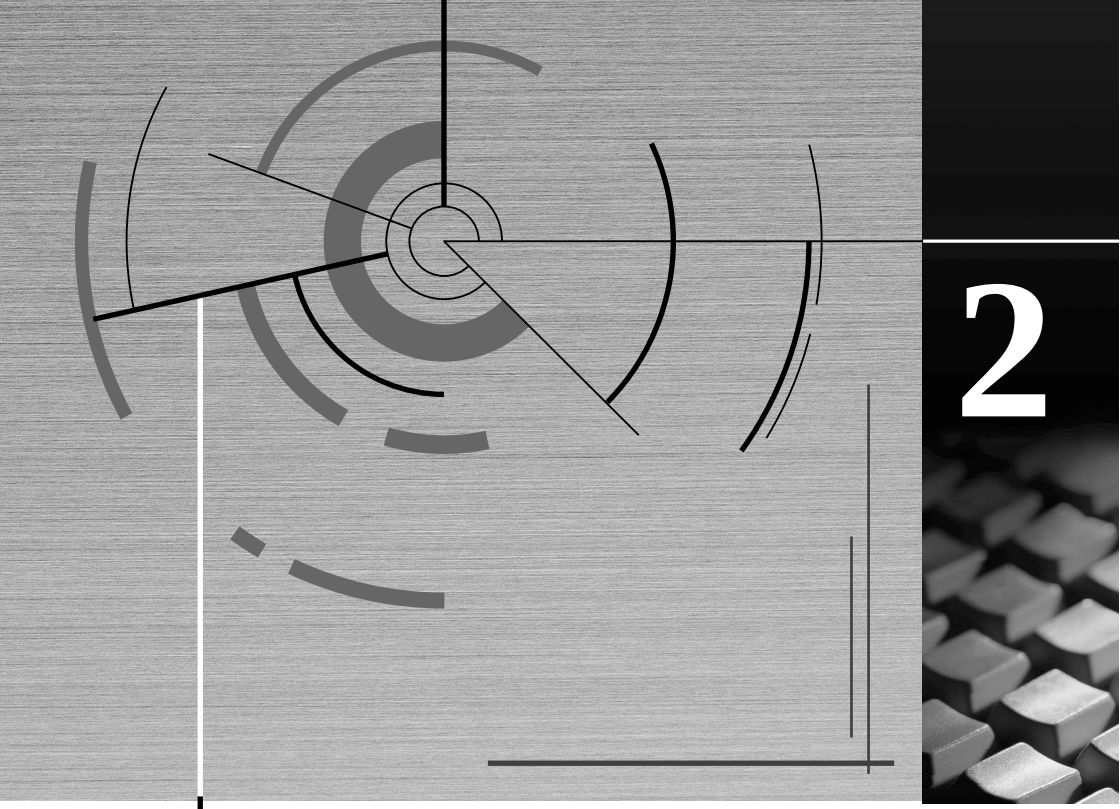
Attach the power plug to the inlet on the rear of the PC.

Connect the power plug to a power source. Insert the other end of the power plug into the outlet.

## ■ Upon completion of all connections

Upon completion of all connections, fill out all user registration cards included with your PC package.

The registration cards are used by manufacturers to obtain user information.




# Chapter 2 Basic Operations

This chapter explains basic operation methods of the PC such as how to turn the power on and off and handle storage media.

# 1 Switching on

This section explains how to switch on the PC.

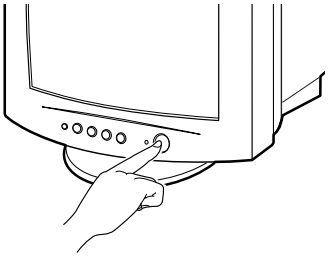
## ⚠CAUTION

Prohibited action

- To prevent malfunction after turning on the PC, do not move equipment or subject equipment to shock and/or vibration.

***1*** **Press the power switch of the CRT display.**

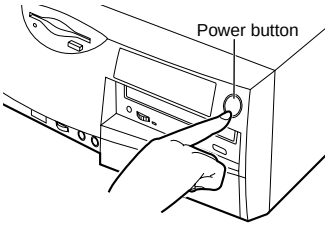
There is no display.



***2*** **Press the power switch of the PC main unit.**

The power lamps of the PC main unit and CRT display light up green.

When the power is switched on, the Power On Self Test (POST) used to check the devices inside the PC is performed.



## Point

- Before switching on the PC, make sure that display is connected. If the PC is switched on before the display is connected, the display adapter may not be recognized, and the screen may not be displayed normally. In this case, connect the display, terminate the OS, switch off the PC, and then switch on the PC again.
- If the display area is not centered on the screen, adjust the CRT display.
- The power lamp lights up orange when the PC is placed in standby status.
- If POST detects abnormal conditions, an error message is displayed. For error messages, see Section 1, " Error Messages," in Chapter 4, "Troubleshooting."
- If the CRT display power cord is connected to the PC main unit, the CRT display is switched on simultaneously with the PC main unit. In this case, the power switch of the CRT display may remain in the on position, thereby eliminating the need to set the switch at each operation. Press the power switch of the PC main unit only when using the PC again, as described in step 2, at which time the display is switched on automatically.
- Wait about 10 seconds before switching the PC on or off again.
- When starting the screen display or switching the display mode, the screen may become disordered or vertical lines may appear temporarily (at the start and end screens of Windows or when returning from the power savings mode).
  This is not an error.
- The refresh rate of the screen must be set according to the CRT display to be used. For extreme overflow or inclination, adjust the CRT display.

---

After turning on the power, set up the PC.

# 2 Switching off

This section explains how to turn off the PC.

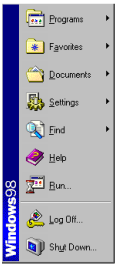
## Point

- Before turning off the power, terminate all jobs and save all necessary data.
- Before turning off the power, confirm that the access indicator lamps (•••➤ see Appendix 1, "Name and Function of Each Component") of the floppy and hard disk drives are off. If the power is turned off while the access indicator lamps are on, data may be lost or data in the floppy disk or hard disk may be destroyed.
- If the power cord is unplugged from the outlet or the power is disconnected due to a power failure while the PC is on, re-connect he power cord or wait until AC power recovers. When the power recovers, the PC is automatically turned on and started. "Press <F2> to enter SETUP" may be displayed at this time. In this case, press the [F2] key, check the Setup items from the menu, and restart the PC.
- Do not turn off the PC while the POST is operating. To switch off the PC while the POST is operating, press the power switch for at least four seconds and confirm that the power lamp goes off.
- If the power is turned off during the POST operation due to a power failure or some other reason, the message, [Press <F1> to resume, <F2> to setup], may be displayed at rebooting. In this case, press [F2] key, confirm the setup menu, and then reboot.
- If the power lamp is on in orange, repress the power switch for at least four seconds.

## ■ Turning off the power via Windows 98

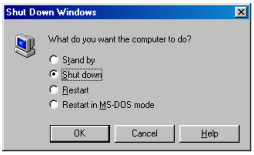
***1*** **Click [Start].**

The "Start" menu appears.




For Windows 98

**2** **Click [Shut Down].**
The following dialog box appears.




For Windows 98

**3** **Check that "Shut down the computer?" has been selected and then click [OK].**
The power is turned off automatically.

## ⊙ Point

If "APM Power Controls" on the BIOS setup menu is set to "Disabled," the message "The computer is ready for shut down" is displayed. Since power is not automatically turned off, press the Power button to turn off the power. (•••➤ See Section 5, "Power Menu," "BIOS Setup.")

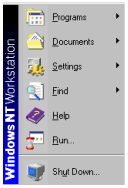
## ⊙ Point

BIOS Setup

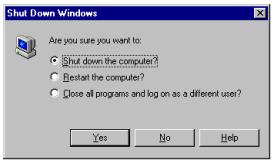
A guide to your Deskpower 5000 BIOS is available online. Please visit our technical support section at www.fujitsu-pc-asia.com. Once there, click on the desktop series from the pull down menu and select the appropriate desktop model.

## ■ Turning off the power via Windows NT

**1** **Click [Start].**
The "Start" menu appears.




**2** **Click [Shut Down].**
The following dialog box appears.




**3** **Check that "Shut down the computer?" has been selected and then click [Yes].**
Turned off the system unit.

# 3 Reset

The PC is reset after the operating system in configured or if software fails to run normally. This section explains how to reset the PC.

### ⊙ Point

Resetting the PC results in memory data being lost. Before resetting, save all necessary data.

## ■ Resetting the PC via Windows 98

This section explains how to reset the PC via Windows 98.

***1*** **Click [Start] and "Shut Down."**
The "Shut Down Windows" dialog box appears.

***2*** **Select "Restart the computer?" and then click [OK].**
The PC is reset.

### ⊙ Point

If Windows 98 does not respond to the keyboard or mouse, reset the PC as follows:

1 Press [Ctrl] + [Alt] + [Delete].
The "Close Program" dialog box appears.
Follow the instructions in this dialog box.

## ■ Resetting the PC via Windows NT

This section explains how to reset the PC via Windows NT.

***1*** **Click [Start] and "Shut Down."**
The "Shut Down Windows" dialog box appears.

***2*** **Select "Restart the computer?" and click [Yes].**
The PC is reset.

### ⊙ Point

The following procedure can also be used to reset the PC:

1 Press [Ctrl] + [Alt] + [Delete].
The "Windows NT Security" dialog box appears.
2 Click [Shut Down].
The "Shut Down Computer" dialog box appears.
3 Select "Switch off power after shut down?" and click [OK].
The PC is reset.

## ■ Resetting the PC via Windows 2000

This section explains how to reset the PC via Windows 2000.

***1*** **Click [Start] and "Shut Down".**
The "Shut Down Windows" dialog box appears.

***2*** **Select [Restart] and click [OK].**
The PC is reset.

### ⊙ Point

The following procedure can also be used to reset the PC:

1 Press [Ctrl] + [Alt] + [Delete].
The "Windows Security" dialog box appears.
2 Click [Shut Down].
The "Shut Down Windows" dialog box appears.
3 Select "Restart" and click [OK].
The PC is reset.

# 4 Floppy Disk

A floppy disk is a storage medium used to save programs and other information.
This section explains how to mount and dismount floppy disks.

## ⊙ Point

Use a floppy disk formatted for DOS. If a disk other than DOS is used, the operation may not execute correctly.

## ■ Handling precautions

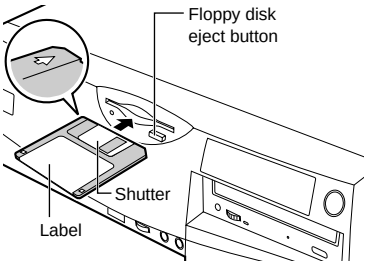
To prevent malfunctions, note the following precautions regarding floppy disks:

- Do not get wet.
- Do not open the disk shutter.
- Do not bend or place heavy objects thereon.
- Do not expose to magnetic force.
- Do not drop.
- Do not store in areas exposed to high or low temperatures.
- Do not store in a damp or dusty area.
- Do not overlay labels.
- Do not get wet.

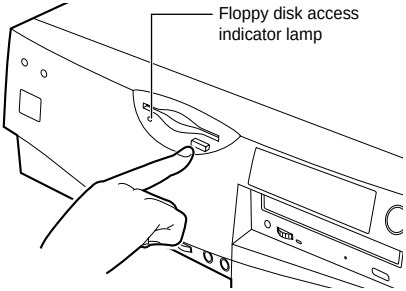
## ■ Mounting and dismounting a floppy disk

### ● Mounting a floppy disk

***1*** **With the label facing left, insert the floppy disk into the drive shutter-end-first.**
The floppy disk eject button clicks and is pushed out.



### ● Dismounting a floppy disk




***1*** **Confirm that the floppy disk access indicator lamp is off.**

## ⊙ Point

To prevent data from being destroyed, do not dismount a floppy disk from the drive when the floppy disk access indicator lamp is on.

***2*** **Press the floppy disk eject button.**
The floppy disk is ejected.

# 5 CD-ROM

Your PC incorporates a CD-ROM drive(depending on the model).
This section explains how to handle, mount, and dismount CD-ROM disks.

## ■ Handling precautions

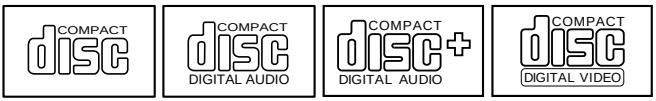
To prevent malfunctions, note the following precautions regarding CD-ROM disks:

- Do not write on the label side (printed side) using a ball-point pen or pencil and do not affix extra labels.
- Do not touch or scratch the data side.
- Do not bend or place heavy objects thereon.
- Clean using a dry soft cloth (do not use a cleaning solution).
- Do not get wet.
- Do not store in areas exposed to high or low temperatures.
- Do not store in damp or dusty areas.

### ⊙ Point

CD-ROMs (developed from music compact disks (CD)) are used to save PC information (such as characters). The term "ROM" stands for "Read Only Memory," which means that the user can only read data in the disk. The PC can read data from a CD-ROM disk but cannot write data onto a disk.

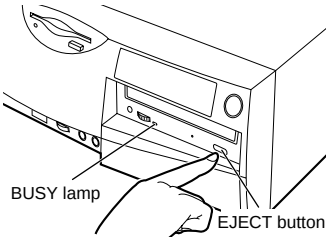
The PC can read CD-ROM disks having the following markings:



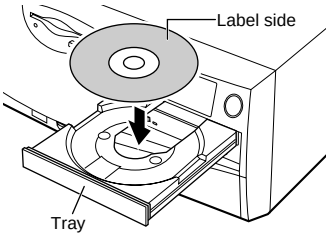
## ■ Mounting and dismounting a CD-ROM disk

### ● Mounting a CD-ROM

***1*** **Press the EJECT button.**
The CD-ROM tray is ejected.




***2*** **With the label side of the CD-ROM disk facing up, place the CD-ROM disk in the center of the tray.**




***3*** **Press the EJECT button.**

The tray retracts into the PC main unit and the CD-ROM is set.

### ⊙ Point

- When the CD-ROM is set, the BUSY lamp goes on. When the BUSY lamp goes off, proceed to the next step.
- Pressing the EJECT button when inserting the tray does not set the tray correctly.

### ● Dismounting a CD-ROM

To dismount a CD-ROM disk, confirm that the BUSY lamp is off, then press the EJECT button as shown above.

# 6 Hard Disk

Your PC incorporates a built-in hard disk. This section outlines precautions to take when handling a hard disk.

## ■ What is a hard disk?

A hard disk is used to save software and other data and consists of a magnetic disk packed in a box as shown on the right. A hard disk can save more data and can read and write data faster than is possible with floppy disks.

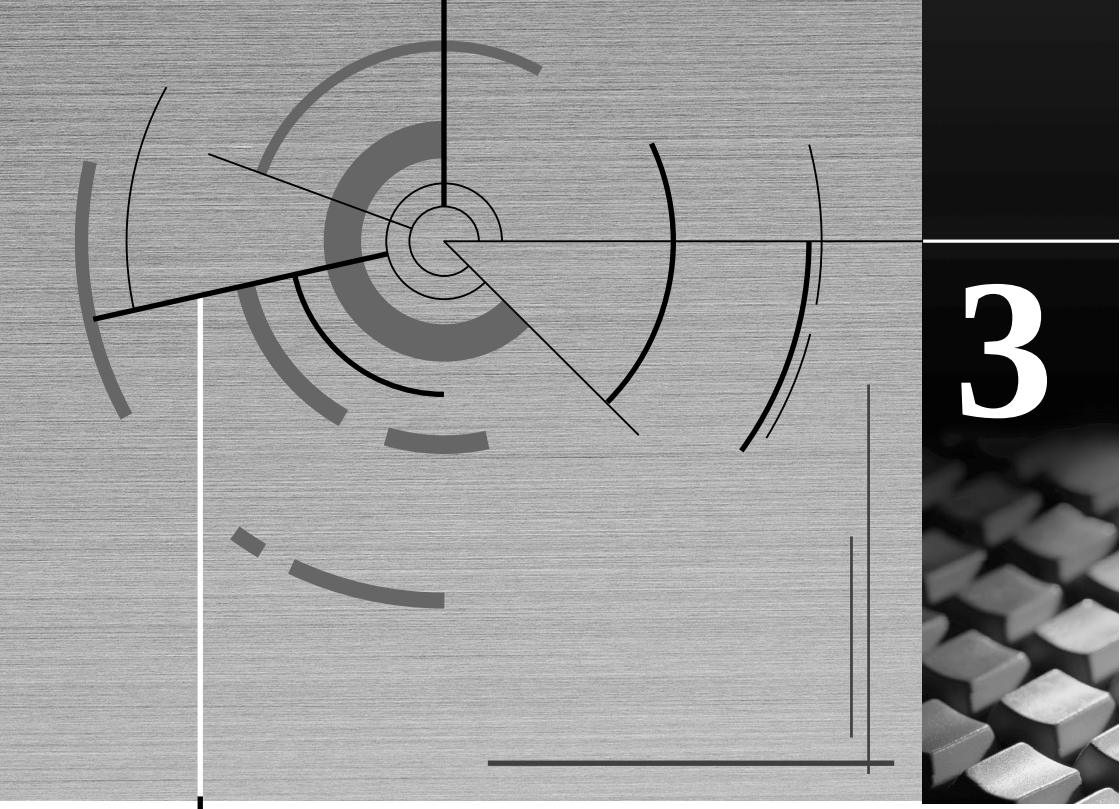
## ■ Handling precautions

To prevent malfunctions, note the following precautions regarding hard disks:

- Do not move or subject the PC to shock and/or vibration with its power on.
- Do not expose to extreme temperature changes.
- Do not place in areas exposed to direct sunlight or near heating units.
- Do not store in areas subjected to shock or vibration.
- Do not store in damp or dusty areas.
- Do not expose to a strong magnetic field.
- Do not disassemble or remodel.
- Do not get wet.

### ⊙ Point

- Because incorrect handling may destroy data in a hard disk, back up all necessary data.
- Because there is a difference in the storage capacity of same-type hard disks, back up data for each file or segment, not for each hard disk.




# Chapter 3 Installing Internal Options

This chapter explains how to install internal options such as hard disk and expansion cards.

Consult this chapter as required.

# 1 Introduction

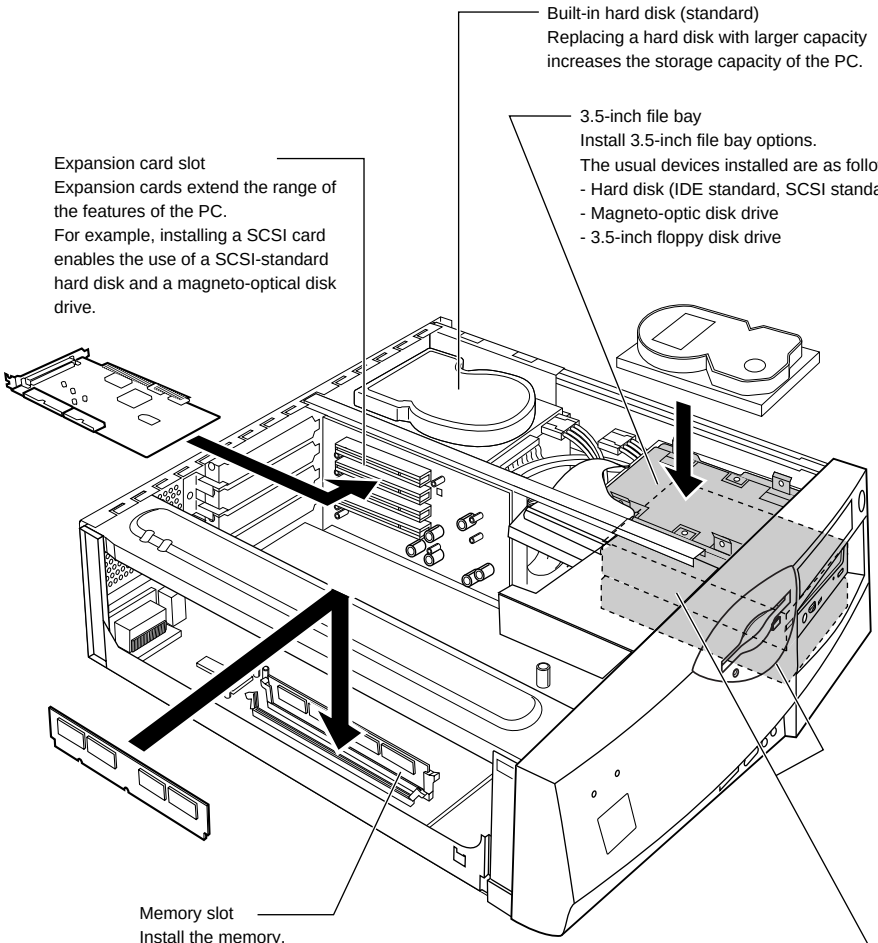
The features and performance of your PC can be upgraded by installing options. This section describes the types of internal options that can be installed in the PC and explains how to remove the upper cover and front panel in preparation for installing the internal options.

## ■ Handling precautions

Note the following when installing internal options:

- Before starting operation, switch off the PC and all connected peripherals and unplug power cords from the AC outlets.
- Immediately after the PC is turned off, internal components and units of the PC are hot. When installing and removing internal options, turn off the power and allow the PC to cool down for about 10 minutes before starting operation.
- Do not disassemble the power supply unit (a box-shaped device inside the PC).
- Do not damage or remodel internal cables or units.
- Because internal options are PC boards with exposed soldered sections that may be damaged by a static electrical charge, discharge any accumulated static electricity before handling.
- Secure the board by the metal bracket portions or an edge of the PC board such that the surface of the PC board and the soldered sections are not handled.
- Installation and disassembly of options other than Fujitsu brand products void the warranty.

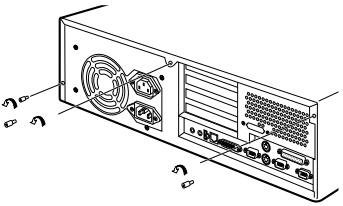
## ■ Installing positions of internal options


Built-in hard disk (standard)
Replacing a hard disk with larger capacity increases the storage capacity of the PC.
3.5-inch file bay
Install 3.5-inch file bay options.
The usual devices installed are as follows.
- Hard disk (IDE standard, SCSI standard)
- Magneto-optic disk drive
- 3.5-inch floppy disk drive
Expansion card slot
Expansion cards extend the range of the features of the PC.
For example, installing a SCSI card enables the use of a SCSI-standard hard disk and a magneto-optical disk drive.
Memory slot
Install the memory.
Memory expansion increases the amount of data to be stored at one time and enhances the throughput of the PC.
5-inch file bay
Install 5-inch file bay options (upper/lower bays)
The usual devices installed are as follows.
- CD-ROM drive
- 5-inch floppy disk drive
- Hard disk

## ■ Removing the upper cover

When installing internal options, remove the upper cover so as to reveal the inside of the main unit.

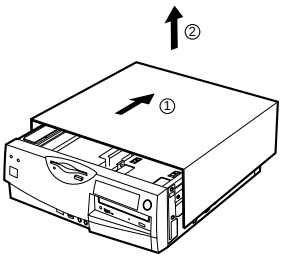
***1*** **Remove three screws at the rear of the PC main unit.**



***2*** **Remove the upper cover.**

Slide the upper cover to the rear of the PC main unit (in the direction of arrow ① in the figure)

Lift and remove the cover (in the direction of arrow ② in the figure).



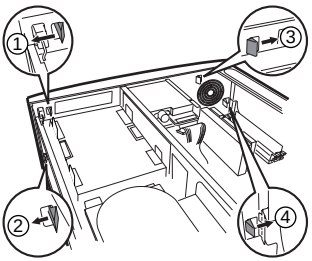

### ⊙ Point

- To replace the cover, reverse the above procedure.
- If the upper cover of the PC main unit is left removed, the internal battery life will shorten. Keep the duration when the upper cover is left removed at minimum requirement such as only for installing internal options.

## ■ Removing the front panel

Remove the front panel when installing internal options in file bays. (Removal of the front panel is not required when installing a hard disk in a 3.5-inch file bay.)

***1*** **Release hooks in order from ① to ④ and pull out the front panel.**

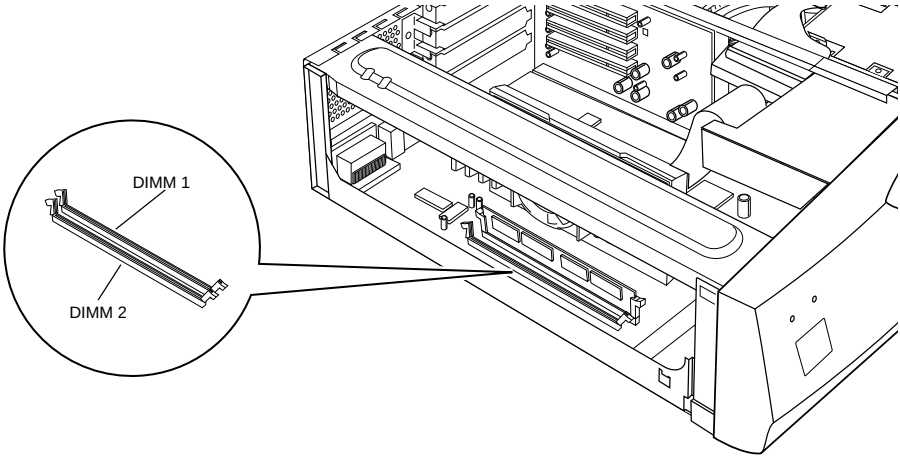



### ⊙ Point

To attach the front panel, secure the hooks in order from ① to ④ in the figure.

# 2 Installing Memory Modules

This section explains how to install and remove additional memory modules. Memory expansion in your PC increases the amount of data to be read and enhances the throughput of the PC.




## ⊙ Point

To install a memory module, set up the PC, turn off the power, remove the AC power cord from the outlet and install the memory module.

## ⚠WARNING

Electric shock

- To prevent electric shock, before installing and removing memory modules, turn off the PC and connected units and unplug power cords from respective outlets.

Electric shock

- To prevent electric shock, fire, and/or malfunction, install only Fujitsu brand memory modules in the PC.

## ⚠CAUTION

Injury

- To prevent personal injury and/or malfunction, when installing and removing memory modules, only remove screws from specified locations.

Injury

- To prevent injury and/or malfunction, do not touch PC board components not specified.

## ■ Memory

A total of up to 512 megabytes of memory modules can be installed.
A memory module has been installed in DIMM1 as standard.
Install a memory module to be added in DIMM2.
To ensure a total of 512 megabytes of memory, replace the memory module in DIMM1 with a 256-megabyte memory module.

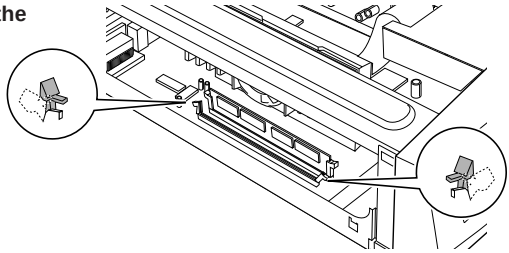
### ⊙ Point

Install a Fujitsu genuine memory module to ensure PC operation.

## ■ Installing an additional memory

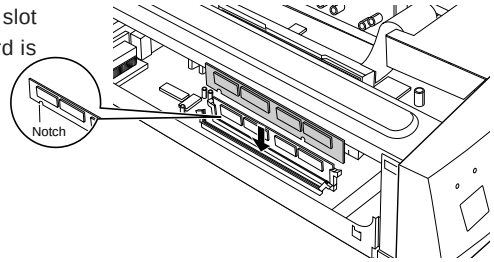
***1*** **Remove the upper cover.**

***2*** **Push down the hooks at both ends of the slot.**



***3*** **Insert the memory card into the slot.**

Insert the memory module vertically while aligning the memory module notches and the socket keys. The hooks at both ends of the slot are raised. Confirm that the memory card is securely locked in place.

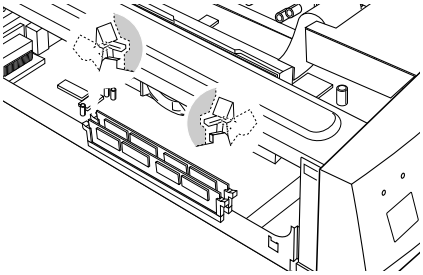



***4*** **Attach the upper cover.**

## ■ Removing the memory

***1*** **Remove the upper cover.**

***2*** **Open the hooks out at both ends of the slot and remove the memory module.**



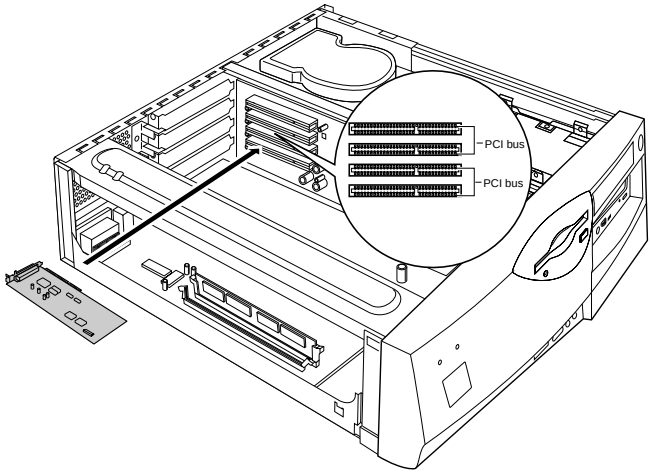
### ⊙ Point

Note that opening the hooks out forcefully causes the memory card to pop out of the slot and may cause a malfunction.

***3*** **Attach the upper cover.**

# 3 Installing Expansion Cards

This section explains how to install expansion cards, which extend the range of the features of your PC.




## Point

- To install an expansion card, set up the PC, turn off the power, and install the expansion card.
- The first to fourth white slots from the top are for PCI cards.
- Only a half-size expansion card can be installed in the first slot from the top.
- When an expansion card using a serial port such as a modem card is installed, change the duplicated serial port to "Not used" in the BIOS setup.

## WARNING

Electric shock

- To prevent electric shock, before installing and removing expansion cards, turn off the PC and connected units and unplug power cords from respective outlets.
- To prevent electric shock, fire, and/or malfunction, install only Fujitsu brand expansion cards in the PC.

## CAUTION

Injury

- To prevent injury, when installing and removing expansion cards, remove screws only from specified locations.

Injury

- To prevent injury and/or malfunction, do not touch PC board components not specified.
- To prevent injury and/or device failure, do not touch the metal bracket on the motherboard at the rear of the PC main unit.

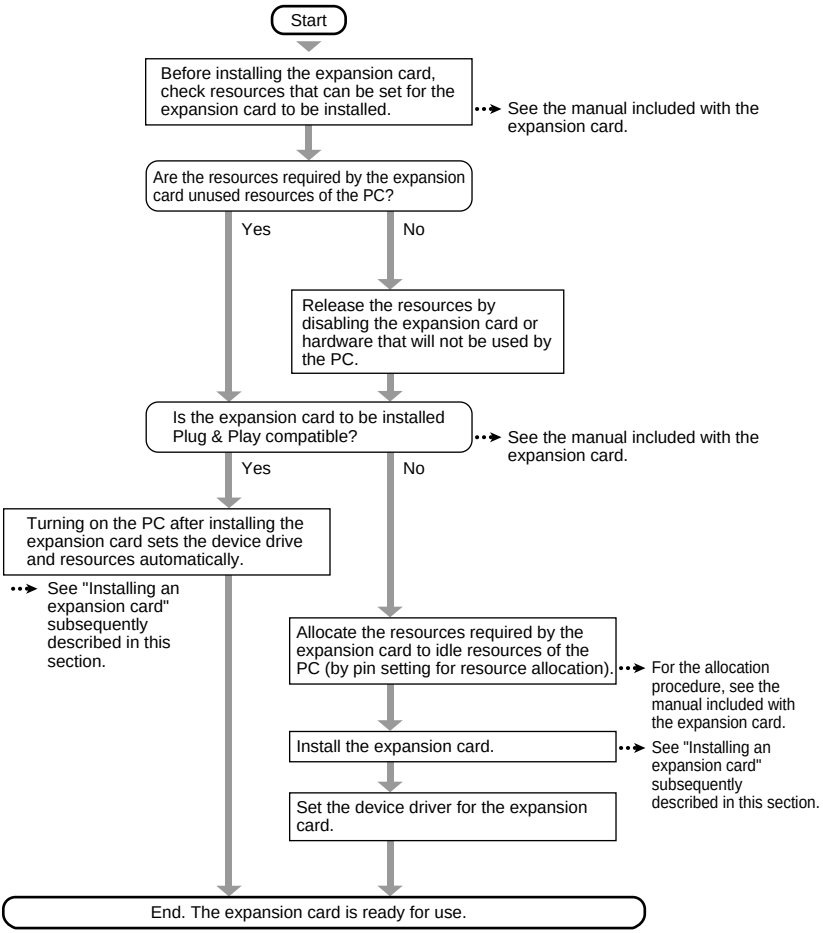
To install expansion cards, "resources" must be set.
The floppy disk drive or hard disk drive inside the PC uses predetermined paths specific to those devices when transferring data with the CPU and memory.
These paths include I/O port addresses, DMA channels, and interrupt levels (IRQ), which are generally called "resources."

Before installing expansion cards, read the following descriptions.

## ■ Expansion cards for PCI bus (Plug & Play compatible cards)

When PCI bus expansion cards are installed, resources are set automatically.
Card installation procedures differ depending on the operating system.
Card installation procedure:
For PCs using Windows 98,
(•••➤ see "Expansion card installation procedure for a PC using Windows 98 on page 28)
For PCs using Windows NT,
(•••➤ see "Expansion card installation procedure for a PC using Windows NT on page 29)

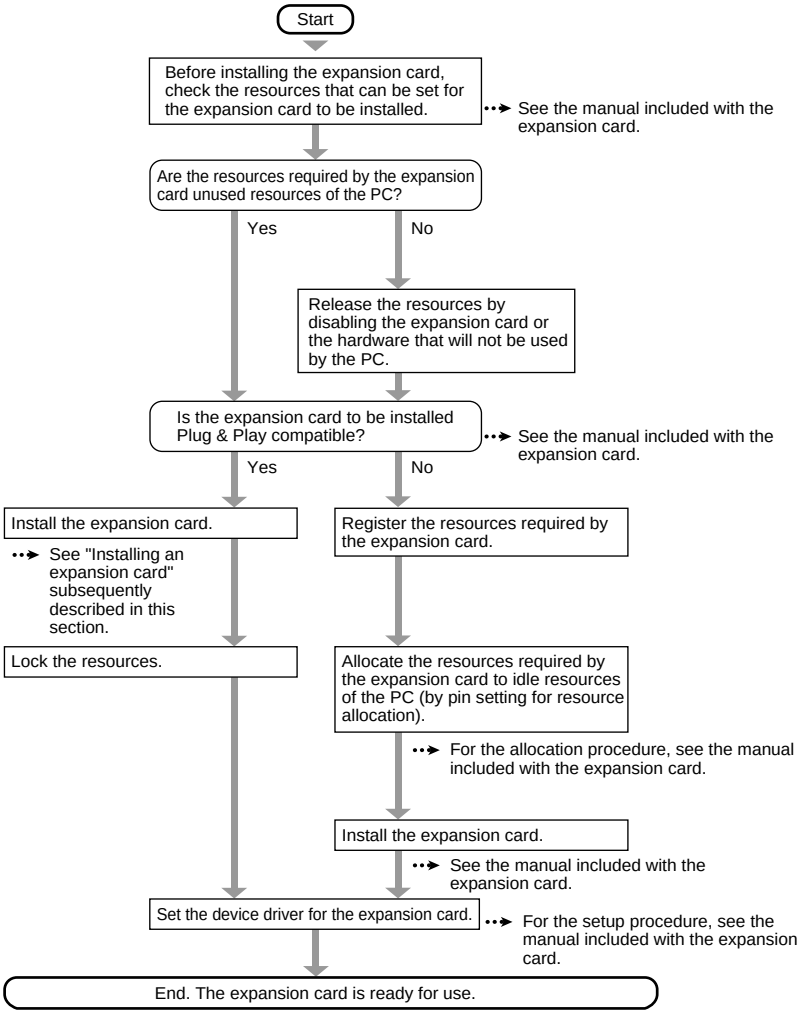
## ■ Expansion card installation procedure for a PC using Windows 98


Start
Before installing the expansion card, check resources that can be set for the expansion card to be installed.
See the manual included with the expansion card.
Are the resources required by the expansion card unused resources of the PC?
Yes
No
Release the resources by disabling the expansion card or hardware that will not be used by the PC.
Is the expansion card to be installed Plug & Play compatible?
See the manual included with the expansion card.
Yes
No
Turning on the PC after installing the expansion card sets the device drive and resources automatically.
See "Installing an expansion card" subsequently described in this section.
Allocate the resources required by the expansion card to idle resources of the PC (by pin setting for resource allocation).
For the allocation procedure, see the manual included with the expansion card.
Install the expansion card.
See "Installing an expansion card" subsequently described in this section.
Set the device driver for the expansion card.
End. The expansion card is ready for use.

### ⊙ Point

- A device driver selected by the Plug & Play function has already been registered with Windows 98/2000. However, some device drivers have not been registered with Windows 98/2000, depending on the expansion card or peripheral device. In this case, use the floppy disk included with the expansion card containing the device drivers to set up the driver in accordance with the messages.
- Confirm that the device driver has been registered by the device manager before using the expansion card. If not registered, delete the device driver and restart Windows 98/2000.

## ■ Expansion card installation procedure for a PC using Windows NT


Start
Before installing the expansion card, check the resources that can be set for the expansion card to be installed.
See the manual included with the expansion card.
Are the resources required by the expansion card unused resources of the PC?
Yes
No
Release the resources by disabling the expansion card or the hardware that will not be used by the PC.
Is the expansion card to be installed Plug & Play compatible?
See the manual included with the expansion card.
Yes
No
Install the expansion card.
See "Installing an expansion card" subsequently described in this section.
Register the resources required by the expansion card.
Lock the resources.
Allocate the resources required by the expansion card to idle resources of the PC (by pin setting for resource allocation).
For the allocation procedure, see the manual included with the expansion card.
Install the expansion card.
See the manual included with the expansion card.
Set the device driver for the expansion card.
For the setup procedure, see the manual included with the expansion card.
End. The expansion card is ready for use.

## ■ Starting and terminating the ICU (For a PC using Windows NT)

This section explains how to start and terminate the ICU using Windows NT.

***1*** **If the PC is turned on, turn it off.**

***2*** **Confirm that the "boot disk" is in write-enable status, insert in the floppy disk drive, then turn on the PC.**
MS-DOS is started.

***3*** **Confirm that the "Plug and Play kit for MS-DOS(R) ICU R1.21 disk 1" is in write-enable status, replace the disk with the "boot disk", then enter the following character string and press the [Enter] key:**
icu
The ICU is started.

### ⊙ Point

- Do not remove the "Plug and Play kit for MS-DOS(R) ICU R1.21 disk 1" from the floppy disk drive when using the ICU.
- Use the keyboard for all ICU operations.
- Do not set the PCI devices to "Disabled" with the ICU. The devices may not be reset to "Enabled."

***4*** **Set up the resources.**

When resource setup is terminated, terminate the ICU.

***5*** **Press [Alt]+[F].**
The pull-down menu appears.

***6*** **Select the "Exit" command and press the [Enter] key.**

***7*** **Turn off the PC main unit.**

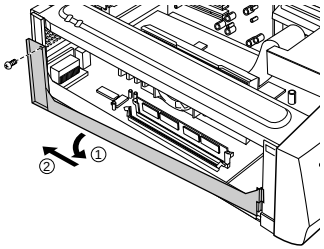
## ■ Installing an expansion card

To install a large expansion card, remove the motherboard as shown in step 3. To install a small expansion card, steps 2, 3, 7, and 8 are not required.

***1*** **Remove the upper cover.**

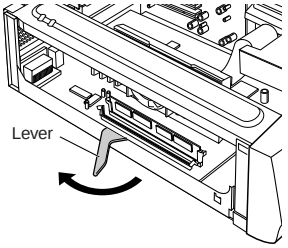
***2*** **Remove the retaining metal bracket at the side (for installing a large expansion card).**

Remove the screw, open the retaining metal bracket in the direction of arrow ①, and remove the bracket in the direction of arrow ②.



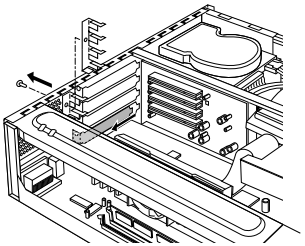

***3*** **Slide the motherboard (for installing a small expansion card).**

Raise the lever about 90 degrees and pull out the motherboard.



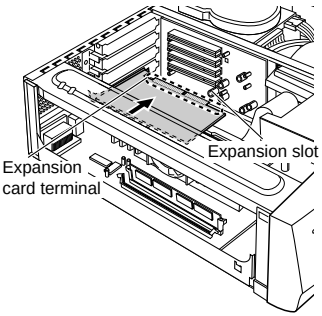

***4*** **Remove the slot cover.**

Remove the screw to remove the retaining metal bracket, then remove the slot cover to install the expansion card.



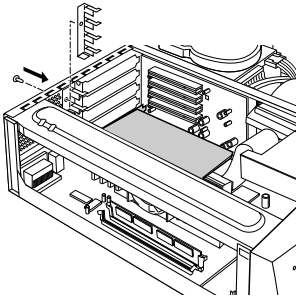
***5*** **Insert the expansion card into the connector.**

Insert the expansion card firmly into the connector.



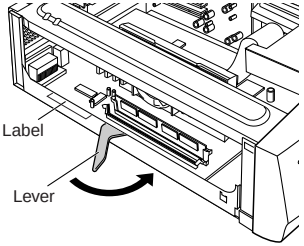
***6*** **Secure the expansion card with the screw.**

Secure the expansion card with the screw removed in step 4.



***7*** **Install the motherboard (when a large expansion card has been installed).**

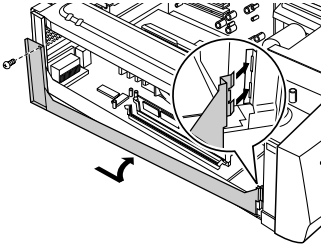
Firmly insert the motherboard and hold it down with the lever.




***8*** **Install the retaining metal bracket at the side (for installing a large expansion card).**

Insert the hooks of the retaining metal bracket into the groove at the front of the PC main unit, then attach the metal bracket.

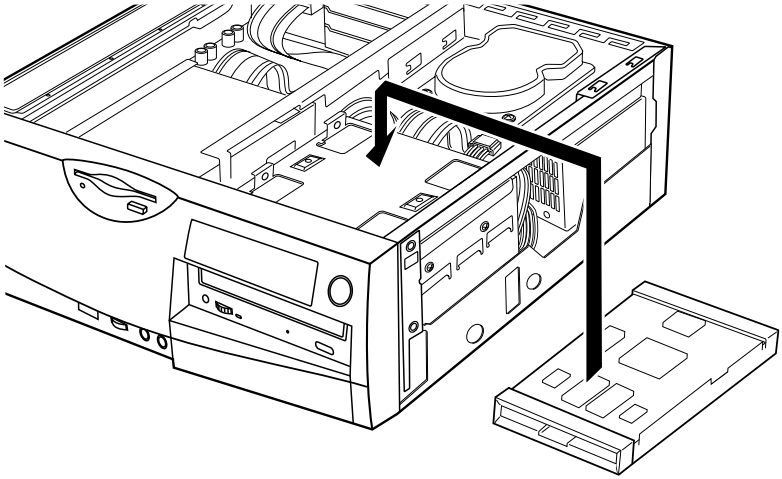
Secure the metal bracket with the screw removed in step 2.



***9*** **Attach the upper cover.**

# 4 Installing Expansion Bay Options

This section explains how to install expansion bay options such as internal hard disk, magneto-optic disk drive, CD-ROM drive, and floppy disk drive. The power can be supplied from the PC main unit to the expansion bay options, differing from external-type devices; therefore, an outlet is not required. This is also useful in saving space.



## ⊙ Point

- To install expansion bay options, set up the PC, turn off the power, and then install the options.
- The internal hard disk supporting Ultra DMA/66 can be used by setting it to Ultra DMA/66. To connect a hard disk not supported by Ultra DMA/33, be sure to set the DMA to OFF. If the PC is used while the DMA is set to ON by mistake, it may malfunction and data may be lost. Consult with the user's guide that comes with the hard disk, to check whether the additional hard disk supports Ultra DMA/33.
- On the secondary IDE side, Ultra DMA/33 is not supported.
- Use the CD-ROM drive, equipped as a standard feature, without modifying its connection to the secondary IDE. To add a hard disk or magneto-optic disk drive to the secondary IDE, reconnect the hard disk or magneto-optic disk drive to the master connector and reconnect the CD-ROM to the slave connector.

## ⚠WARNING

Electric shock

- To prevent an electric shock, turn off the PC and connected units and unplug power cords from respective outlets before installing internal options in, or removing them from the expansion bay.

Electric shock

- To prevent an electric shock, fire, and/or malfunction, install only Fujitsu genuine internal options in the PC expansion bay.

## ⚠CAUTION

Injury

- To prevent personal injury and/or malfunction, remove screws only from the locations specified when installing internal bay options in, or removing them from the expansion bay.

Injury

- To prevent injury and/or malfunction, do not touch any components in locations on the PC board that are not mentioned in any of the relevant documents.

## ■ Replacing a internal hard disk equipped as standard

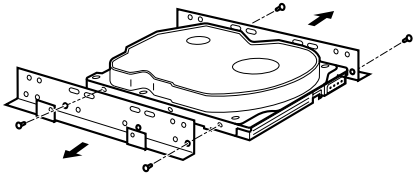
This section explains how to replace a standard-equipped internal hard disk with a hard disk of larger capacity.

***1*** **Set up the jumper switch.**

See the manual accompanying the internal hard disk and make sure that the jumper switch has been set to master, or cable select.

***2*** **If retaining metal brackets are mounted on both sides of the internal hard disk to be replaced, remove them.**

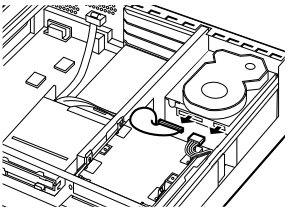
Remove the screws (4) to remove the retaining metal brackets.



***3*** **Remove the upper cover.**

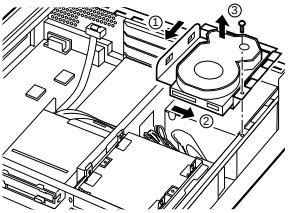
***4*** **Disconnect the hard disk cables.**

Disconnect the power cord and flat cables connected to the hard disk.



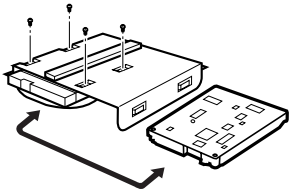
***5*** **Remove the retaining metal bracket.**

Remove the screw (one), then remove the retaining metal bracket by sliding it in the direction of arrow ①, then arrow ②, and then lift it in the direction of arrow ③.



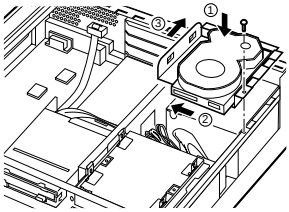
***6*** **Replace the internal hard disk.**

Remove the four blue screws on the back of the retaining metal bracket, and then remove the standard-equipped hard disk. Then, use the blue screws to install the new hard disk.



***7*** **Install the internal hard disk in the PC main unit.**

Install the retaining metal bracket in the original position by lowering it in the direction of arrow ①, sliding it in the direction of arrow ②, and then sliding it again in the direction of arrow ③. Then, secure the retaining metal bracket with the screw that was removed in step 5.

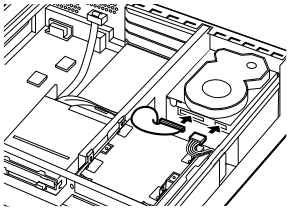



***8*** **Connect the cables to the hard disk.**

Reconnect the power cord and flat cables that were disconnected in step 4.

Be sure to connect the flat cables to the connector with the MASTER marking.

To prevent malfunction, be sure to place the cables back in their original positions.



***9*** **Attach the upper cover.**

***10*** **Use BIOS setup to set the hard disk.**

Set the type of the installed hard disk by BIOS setup (•••► see "Primary master/slave" in "Main Menu," "BIOS Setup").

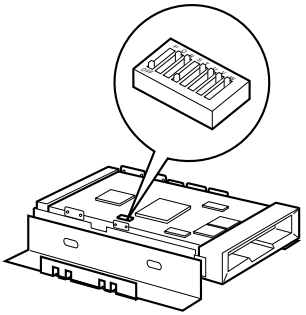
## ⊙ Point

BIOS Setup

A guide to your Deskpower 5000 BIOS is available online. Please visit our technical support section at www.fujitsu-pc-asia.com. Once there, click on the desktop series from the pull down menu and select the appropriate desktop model.

## ■ Installing internal options to 3.5-inch expansion bays

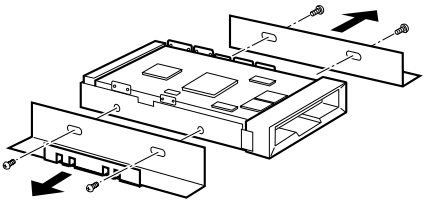
This section explains how to install 3.5-inch expansion bay options such as a 3.5-inch internal hard disk, magneto-optic disk drive, and 3.5-inch floppy disk drive. A magneto-optic disk drive is used below in an installation example.



***1*** **Set the internal option.**

See the manual accompanying the internal options to set the following items.

- To install an IDE-standard internal option: Set the master, slave, and cable selection.
- To install a SCSI interface internal option: Set the SCSI ID.



***2*** **If retaining metal brackets are mounted on both sides of the internal hard disk to be installed, remove them.**

Remove the screws (four) to remove the retaining metal brackets.

***3*** **Remove the upper cover.**

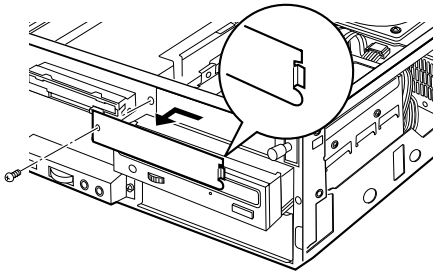
***4*** **Remove the front panel.**

The front panel does not need to be removed when installing a hard disk.

***5*** **Remove the blank panel.**

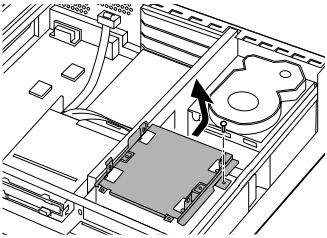
Remove the screw (one) to remove the blank panel.

The blank panel does not need to be removed when installing a hard disk.



***6*** **Remove the retaining metal bracket from the PC main unit.**

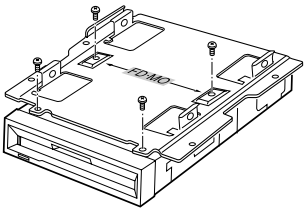
Slide the retaining metal bracket toward the rear side of the PC main unit, and then lift and remove the retaining metal bracket.



***7*** **Install a internal option in the retaining metal bracket.**

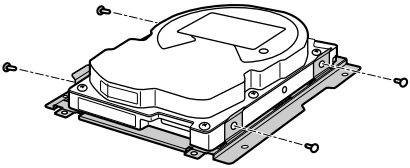
Secure the internal option with the four screws that were removed in step 2.

- To install a magneto-optic disk drive:
  Install the magneto-optic disk drive in position ① in the figure.




①

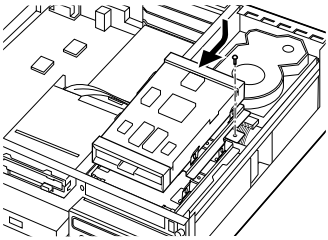
- To install a hard disk:
  Install the hard disk drive in position ② in the figure.Use the blue screws accompanying the internal options to secure the hard disk.



②

***8*** **Install the internal option in the PC main unit.**

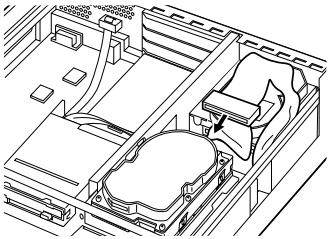
Slide the internal option toward the front side and install it.

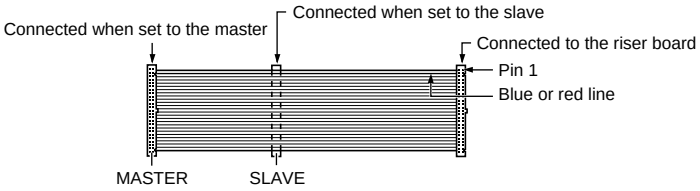


## *9* Connect the flat cable.

Connect the flat cable that is appropriate for the internal option to be installed.

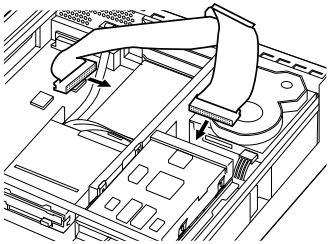
- To install two IDE-standard internal options to the IDE secondary cable (if one of the options is a hard disk), install the hard disk at the master side.





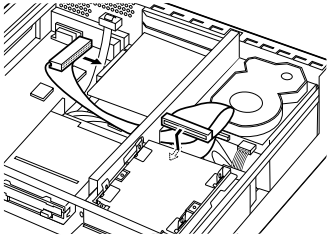

- To install a SCSI interface internal option:

  Connect the flat cable to the SCSI card in the expansion slot.



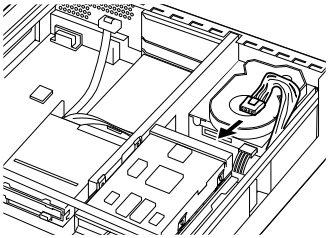
- To install a floppy disk drive:

  Connect the flat cable to the expansion card of the internal floppy disk drive in the expansion slot.



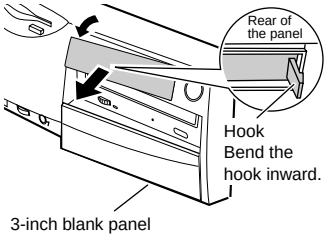
## *10* Connect the power cord.

Connect the unused power cord to the connector of the installed internal option.



***11*** **Attach the front panel.**

Remove the blank panel for a 3.5-inch expansion bay from the rear side of the front panel as required in the arrow direction shown in the figure.




***12*** **Attach the upper cover.**

***13*** **Use BIOS setup to configure the internal option.**

To configure the installed IDE-standard internal option, use the main menu of BIOS setup (•••➤ see "Main Menu,""BIOS Setup").

## ⊙ Point

To remove the internal option, reverse the above procedure.

## ⊙ Point

BIOS Setup

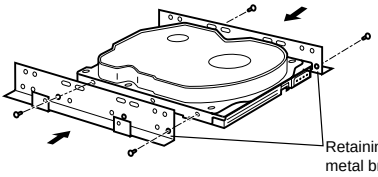
A guide to your Deskpower 5000 BIOS is available online. Please visit our technical support section at www.fujitsu-pc-asia.com. Once there, click on the desktop series from the pull down menu and select the appropriate desktop model.

## ■ Installing internal options to 5-inch expansion bays

This section explains how to install 5-inch expansion bay options such as CD-ROM drive and 5-inch floppy disk drive. A CD-ROM drive is used below in an example of installation. Up to two 5-inch expansion bay options can be installed in your PC.

### ⊙ Point

The retaining metal bracket is required for installing a 3.5-inch hard disk or magneto-optic disk drive.




***1*** **Configure the internal option.**

See the manual accompanying the internal options to configure the following items.

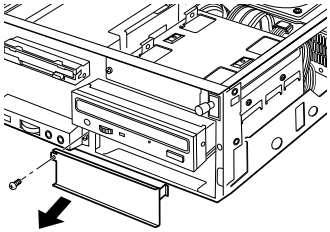
- To install an IDE-standard internal option:
  Set the master, slave, and cable select.
- To install a SCSI interface internal option:
  Configure the SCSI ID.

***2*** **Remove the upper cover.**

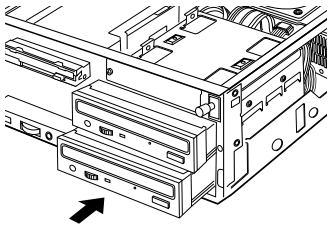
***3*** **Remove the front panel.**

***4*** **Remove the blank panel (for installing the internal option to the lower 5-inch expansion bay).**

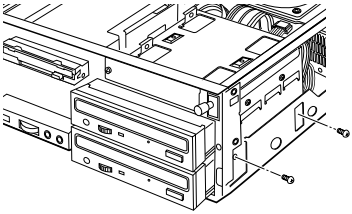
Remove a screw to remove the blank panel.



***5*** **Insert the internal option from the front side of the PC main unit**



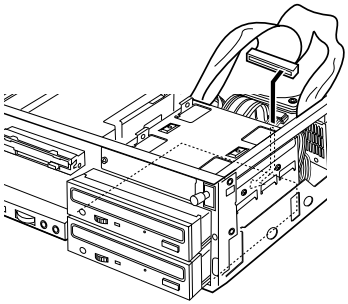
## *6* Secure the internal option with two screws.

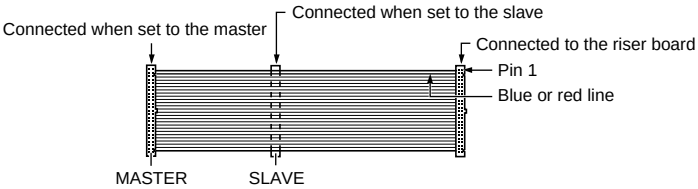


## *7* Connect the flat cable.

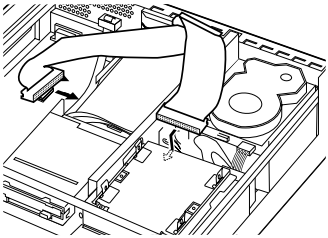
Connect the flat cable appropriate for the internal option to be installed.

- To install an IDE-standard internal option, connect the flat cable to the master or slave connector according to the setting of the internal option.
  If a magneto-optic disk has been installed by a custom-made specification, connect the magneto-optic disk drive to the master connector and the other internal option to the slave connector. However, to install a hard disk, connect the hard disk to the master connector and connect the magneto-optic disk drive to the slave connector.

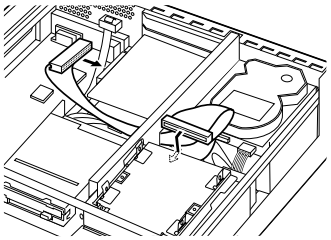





- To install a SCSI interface internal option:
  Connect the flat cable to the SCSI card in the expansion slot.

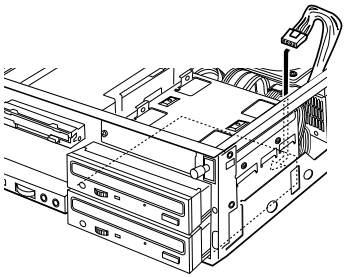


- To install a floppy disk drive:
  Connect the flat cable to the expansion card of the internal floppy disk drive in the expansion slot.



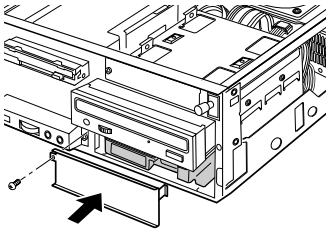
***8*** **Connect the power cord.**

Connect the unused power cord to the connector of the installed internal option.



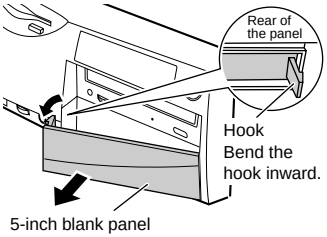
***9*** **Install the blank panel (for an option that does not require a medium be mounted/ dismounted)**

Install the blank panel with the screw that were removed in step 4.



***10*** **Attach the front panel.**

Install or remove the blank panel as required.




## ⊙ Point

To install a 3.5-inch floppy disk drive or magneto-optic disk drive, install the accessory expansion bay panel to the front panel by screws.

***11*** **Attach the upper cover.**

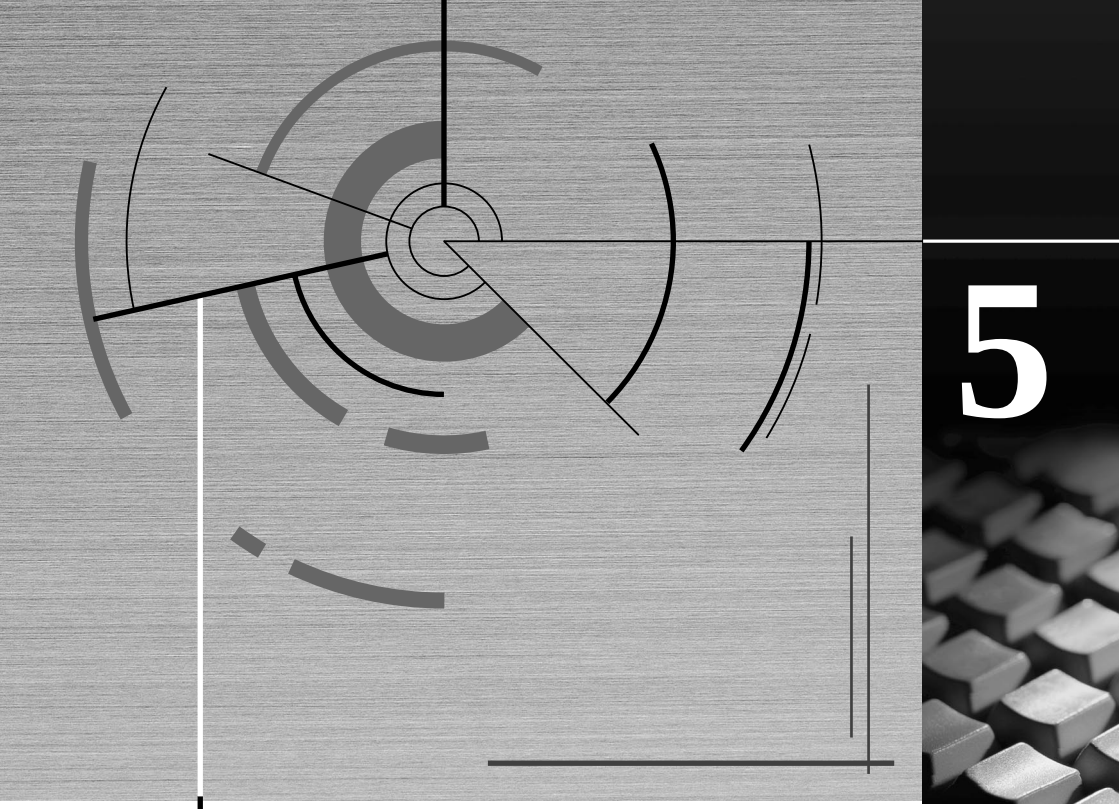
***12*** **Use BIOS setup to configure the internal option.**

To configure the IDE-standard installed internal option, use the main menu of BIOS setup (•••➤see "Main Menu," "BIOS Setup").

## ⊙ Point

BIOS Setup

A guide to your Deskpower 5000 BIOS is available online. Please visit our technical support section at www.fujitsu-pc-asia.com. Once there, click on the desktop series from the pull down menu and select the appropriate desktop model.




# Chapter 4 Troubleshooting

This chapter explains the procedure to follow if the computer does not operate as expected.

# 1 Error Messages

This section provides a list of error messages and suitable responses thereto. Consult this section as required.

## ■ Error messages displayed by the PC

| Error Message | Description and necessary action |
|---|---|
| An error occurred at address xxxx during a system memory test. | If an extended RAM module is used, remove the module and determine whether the error recurs. If this message is not displayed, an extended RAM module error is expected. Replace with another extended RAM module and determine whether the error recurs. If the error recurs, contact a dealer or the Fujitsu service center. |
| An error occurred at address xxxx during an additional memory test. | Confirm that the extended RAM module is mounted properly and is a Fujitsu product. If the error recurs, contact a dealer or the Fujitsu service center. |
| System cache error-Cache disabled | contact a dealer or the Fujitsu service center. |
| An error occurred during a keyboard controller test. | Set the MAIN switch to OFF, then wait ten seconds and set to ON again. If the message is still displayed, contact a dealer or the Fujitsu service center. |
| An error occurred during a keyboard test. | If an external keyboard is connected, confirm that it is connected correctly and turn on the power again. If this message is still displayed, contact a dealer or the Fujitsu service center. |
| An error occurred during a floppy disk drive test. | Confirm that 'Floppy Disk Drive A' is set properly on the BIOS setup main menu and that the floppy disk drive is mounted correctly. |

| Error Message | Description and necessary action |
|---|---|
| An invalid hard disk drive was set. | Confirm ‘Primary master’ or ‘Secondary master’ on the BIOS setup main menu. If the message is still displayed, contact a dealer or the your local distributor. |
| Turn the power off, then on again. | If the message is still displayed, contact a dealer or the your local distributor. |
| Confirm BIOS setup items, then save. | If the message is still displayed, contact a dealer or the your local distributor. |
| Because the computer was not booted correctly last time, some of the setup values are reset to defaults. | This message is displayed if an invalid BIOS setup value is defined to boot the system, the power is turned off during boot, or the computer is rebooted three or more times in the same operation. To continue booting, press the F1 key. To run the BIOS setup utility and check setup values, press the F2 key. |
| If an error occurs during POST, this message is displayed before the OS boots. | To boot booting the OS, press the F1 key. To run the BIOS setup utility and change setup values, press the F2 key. |
| Check date and time settings | Confirm 'System Time' and 'System Date.' |

| Error Message | Description and necessary action |
|---|---|
| Invalid system disk | Replace the disk, and then press any key<br>This message is displayed when the PC is switched on while a floppy disk other then a system disk is set in the floppy disk drive. Remove the floppy disk and press any key. |
| Non-System disk or disk error | Replace and press any key when ready<br>This message is displayed when the PC is switched on while a floppy disk other then a system disk is set in the floppy disk drive. Remove the floppy disk and press any key. |
| Operating system not found | OS cannot be found. Confirm that the drive is correctly set at BIOS setup or the OS is installed in the specified drive. |
| An error occurred during execution of the Execution Environment. | The LAN cable is not correctly connected. Connect the LAN cable correctly. |
| An error occurred during execution of the Preboot Execution Environment. | The IP address required to boot the PC was not obtained. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu. |
| An error occurred during execution of the Preboot Execution Environment. | The boot filename was not obtained from the boot server. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu. |
| An error occurred during execution of the Preboot Execution Environment. | There is no boot server, or the boot server does not work correctly. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu. |
| An error occurred during execution of the Preboot Execution Environment. | The boot image file on the boot server was not obtained. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu. |
| An error occurred during execution of the Preboot Execution Environment. | Booting from a network failed. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu. |

| Error Message | Description and necessary action |
|---|---|
| An error occurred when the memory speed was unclear. | When the system bus clock is 100MHz, a memory whose speed is unclear is mounted. Power off the system, and then replace the memory with one appropriate for the system bus clock. |
| An error occurred when a memory is inappropriate for the system bus clock. | The mounted memory is 66MHz and inappropriate for the system bus clock. Power off the system, then replace the memory with one appropriate for the system bus clock. |

## ■ Correcting errors

If an error message is displayed, respond as follows.

- Running the BIOS setup utility
  If a BIOS setup error message is displayed, retry the BIOS setup utility.
- Confirming that built-in options are mounted correctly
  If optional extension cards are mounted, confirm that the cards are mounted and set up correctly. Also conform that the card is properly set. If available, consult manuals or utility software with extension cards.

If the error message is still displayed, the PC may be faulty. Contact the Fujitsu service center or a dealer.

# 2 Troubleshooting

This section provides troubleshooting information for each function. Consult this section as required. For troubleshooting information for Windows NT, refer to the Windows NT manual or the online help registered on the Start menu.

## ■ Troubleshooting information on the computer main unit and peripheral units

● **The access lamp does not light up.**

The PC may be faulty. Contact a dealer or the Fujitsu service center.

● **No data is displayed on the screen.**

Confirm the following:

- Is the Power switch on the display turned on?
- Is the power savings mode selected?
  Move the mouse or press any key.
- Is the display cable connected correctly? See page 2 "Installation" to connect the display cable correctly.
- Is the power cable of the display unit connected to the outlet? See page 2 "Installation" to connect the power cable correctly.

**⚠WARNING**

Electric shock

● Before connecting cables, turn off the power to prevent electric shock.

- Are the brightness and contact variable resistors on the CRT display unit adjusted correctly? Adjust the screen image using the brightness and contact variable resistors.

● **The screen flickers.**

Is there any strong magnetic field in the vicinity of the computer, such as a TV set? If so, keep away from the PC.

● **The screen sides are cut.**

Adjust the horizontal screen size using the adjustment controls on the CRT display unit.

● **Data cannot be read from or written to floppy disks.**

Check the following:

- Is the floppy disk drive head dirty? Clean the head using a cleaning disk.
- Is the floppy disk write-protected? Move the write-protect tab on the floppy disk to a the write-enabled position.

● **The power is not turned on or the Power lamp on the front panel does not light up.**

Is the power cable plugged in?

● **Data cannot be read from the CD-ROM drive.**

Check the following:

- Has the CD-ROM been placed properly at the center of the tray? Place the CD-ROM on the tray again with the label side facing upward.
- Has the CD-ROM been placed upside down on the tray? Place the CD-ROM on the tray in the proper manner with the label side facing upward.
- Is the CD-ROM dirty or wet? Clean the CD-ROM with a soft dry cloth (moving from the center to the periphery).
- Is the CD-ROM damaged? Replace the CD-ROM.
- Does the CD-ROM conform to the required standard? Use a correct CD-ROM.

● **Characters entered using the keyboard are not displayed.**

Is the keyboard connected correctly? See page 2, "Installation" to connect the display cable correctly.

● **The mouse cursor does not move.**

Is the mouse connected correctly? See page 2, "Installation" to connect the display cable correctly.

## ■ Troubleshooting information on Windows 98

● **The entire Windows 98 programs are frozen during the execution of an application.**

First press the Ctrl + alt + Delete keys to end the application. If the application cannot be terminated, press the Ctrl + Alt + Delete key twice to reboot the computer. If the computer cannot be rebooted, press the Power switch to turn off the power, then reboot a few minutes later. After the computer is rebooted, from the Start menu, select Program - Accessories - System tools, then click on Scan disk.

If no error is detected by the scan disk utility, continue operation. If an error is detected, respond in accordance with the messages displayed.However, the error might happen again after it has been corrected. If the error recurs, attempt to reinstall Windows 98 or applications.

### ⊙ Point

The current operation data by an application is not saved if the application is terminated using the Ctrl + Alt + Delete keys or the computer is reset.

● **The mouse is disabled and Windows 98 cannot end.**

Use the keyboard to exit Windows 98 as follows:

1 Press the key or the Ctrl + Esc keys.

The Start menu appears.

2 Select "Exit Windows" with the ↑" or ↓ key and press the Enter key.
The Exit Windows dialog box is displayed.

3 Select "Turn off power" and press the Enter key.
Windows 98 ends.

● **A SCSI unit is connected using a SCSI card but cannot be identified by Windows 98.**

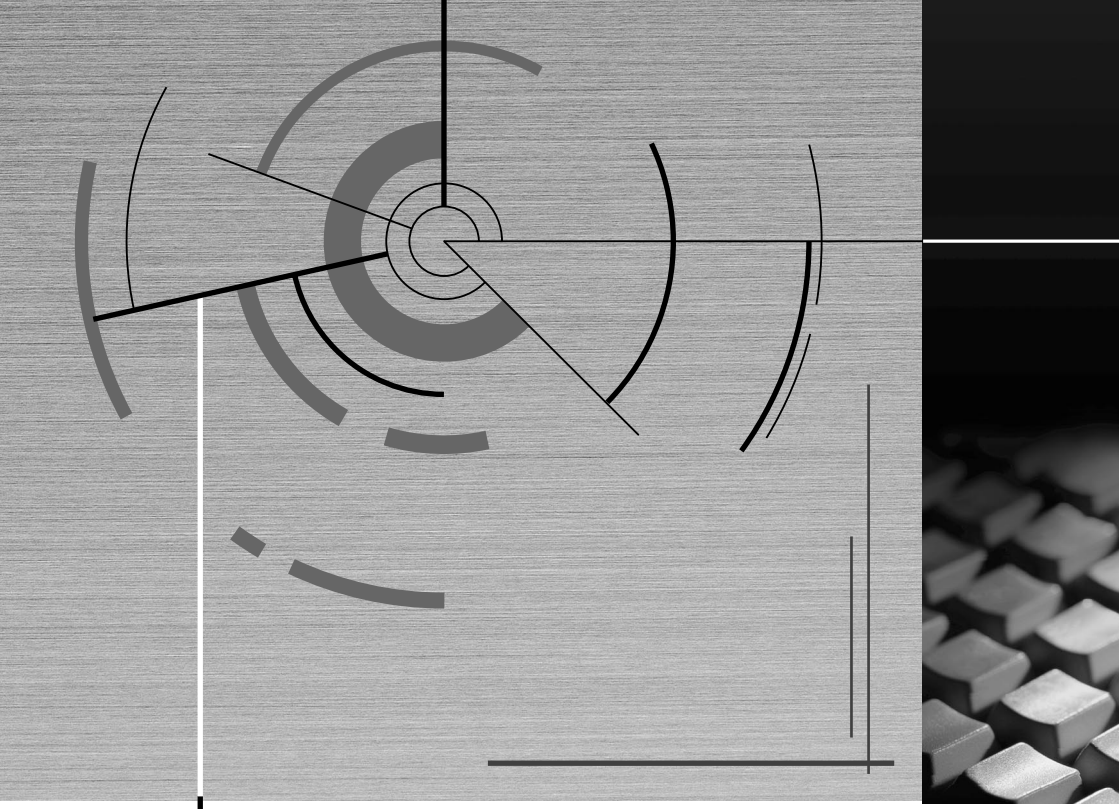
Check the following:

- Is the SCSI card driver installed correctly? Proceed as follows.
  1 From the Start menu, select Setup and click on Control Panel.
  The Control panel window is displayed.
  2 Double click on the System icon.
  3 Click on the Device manager tab and confirm that the SCSI controller is defined.
  If not defined, click on the Hardware icon in the Control Panel window to detect a SCSI card and install the driver.
- Is the SCSI unit turned on before the computer is turned on? If the computer is turned on before the SCSI unit is turned on, the SCSI unit cannot be identified.

## ■ If an error recurs

If the cause is still unknown or the system cannot be reset, contact a dealer or the Fujitsu service center. Then check and record the following:

- Model name and serial number of the computer (See the label at the rear of the computer.)
- OS and version used
- Types of extension cards and memory installed
- Circumstances (the particulars, including the messages displayed on the screen, etc.)
- Date and time an error occurred



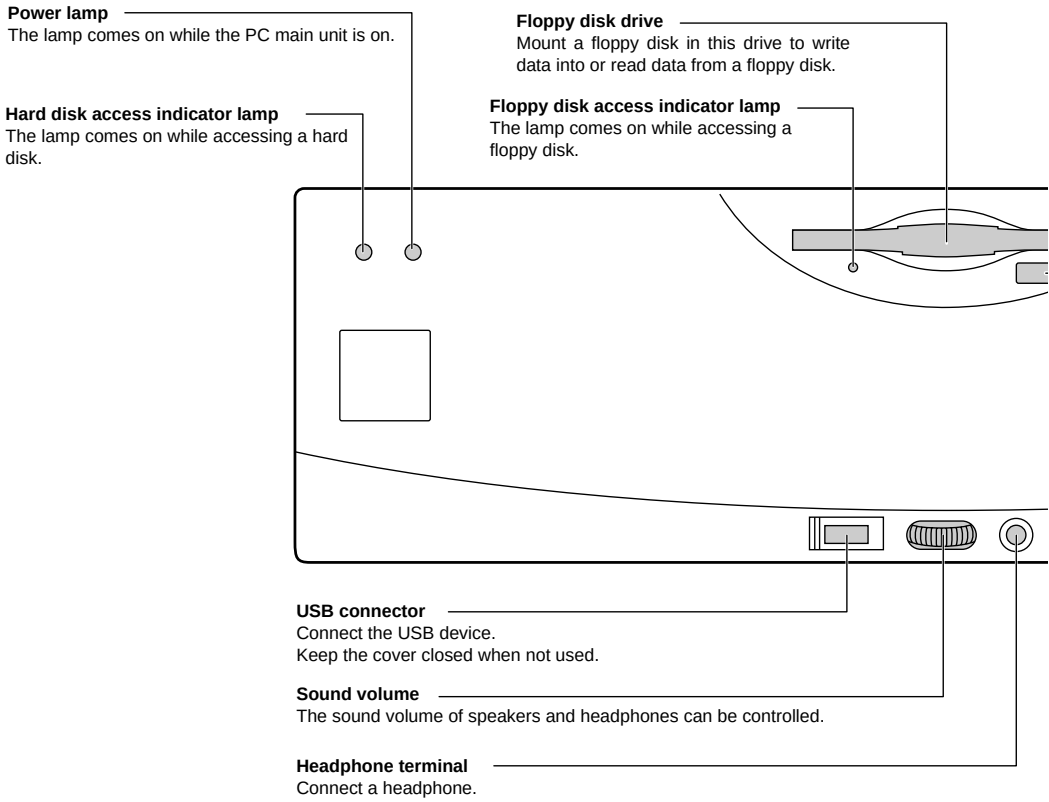
# Appendix

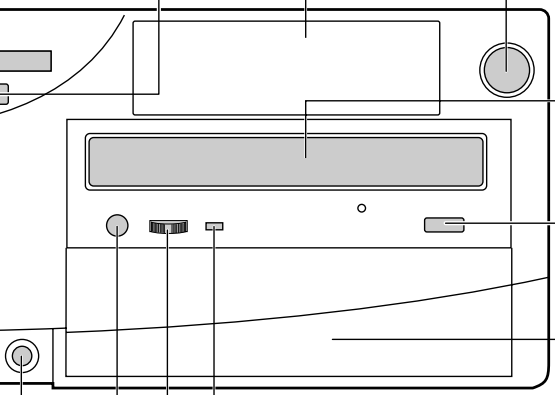
This appendix explains how to clean the PC and provides PC main unit specifications.

# 1 Name and Function of Each Component

This section explains the name and function of each component of the PC main unit, motherboard/ riser board, and keyboard.

## ■ Front of the PC main unit


**Power lamp**
The lamp comes on while the PC main unit is on.
**Hard disk access indicator lamp**
The lamp comes on while accessing a hard disk.
**Floppy disk drive**
Mount a floppy disk in this drive to write data into or read data from a floppy disk.
**Floppy disk access indicator lamp**
The lamp comes on while accessing a floppy disk.
**USB connector**
Connect the USB device.
Keep the cover closed when not used.
**Sound volume**
The sound volume of speakers and headphones can be controlled.
**Headphone terminal**
Connect a headphone.



**Floppy disk eject button**
Press this button to eject a floppy disk.

**3.5-inch blank panel**
Remove this panel to add a 3.5-inch internal option.

**Power switch**
Press this switch to turn on the PC main unit, put the system into the standby status, or recover the system from the standby status.

**CD-ROM drive**
Use this drive to read a program from a CD-ROM disk or play a music CD.

**EJECT button**
Press this button to mount or dismounta CD-ROM or a music CD. This button can be used while the PC main unit is on.

**5-inch blank panel**
Remove this panel to add a 5-inch internal option.

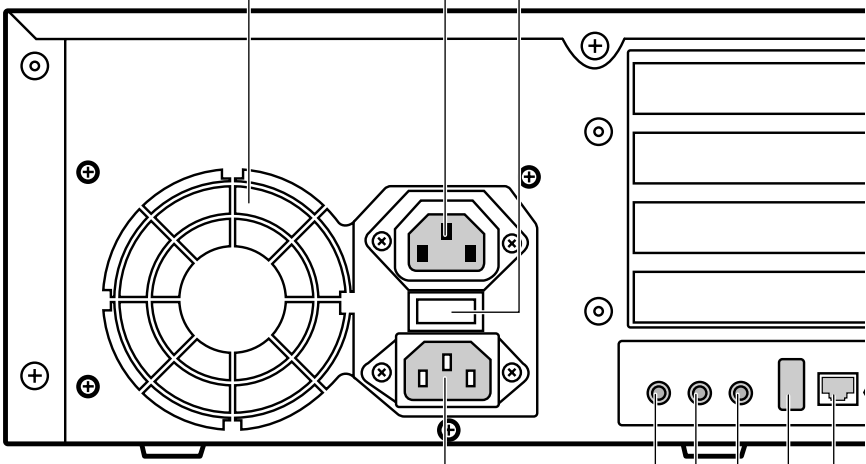
**BUSY lamp**
The lamp is on while reading data from a CD-ROM or playing a music CD.

**Headphone volume (Only for a music CD)**

**Headphone terminal (Only for a music CD)**

**Microphone terminal**
Connect a microphone.

## ■ Rear of the PC main unit



**Power-switching switch**

**Outlet**
Connect the power cord of the CRT display.

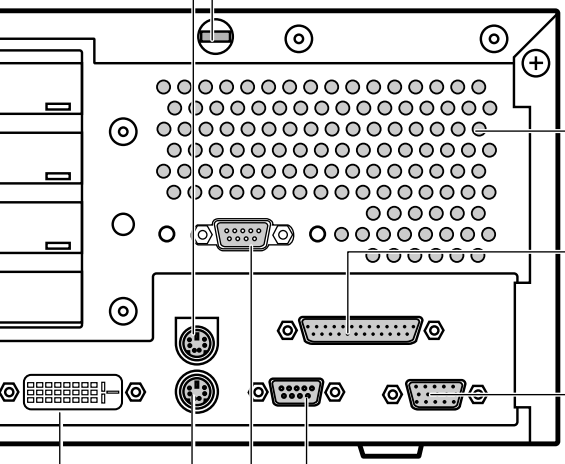
**Ventilation holes**
The heat within the PC main unit is ventilated through these holes. Keep them free.

**Inlet**
Connect the power cord of the PC main unit.

**SPK OUT terminal**
Connect the speakers.

**LINE OUT terminal**
Connect the input terminal of audio equipment.

**LINE IN terminal**
Connect the output terminal of audio equipment.



**Keyboard connector** (: KEYBOARD)
Connect the keyboard cable.

**Security lock**
You can connect a security-use cable bought on the market.

**Ventilation holes**
The heat within the PC main unit is ventilated through these holes. Keep them free.

**Parallel connector**
(: PRINTER)
Connect the printer cable. It is also called a parallel port.

**CRT connector**
(: MONITOR)
Connect the CRT cable.

**Serial connector**
( : SERIAL PORT1)
( : SERIAL PORT2)
Connect a RS-232C interface device such as a modem.

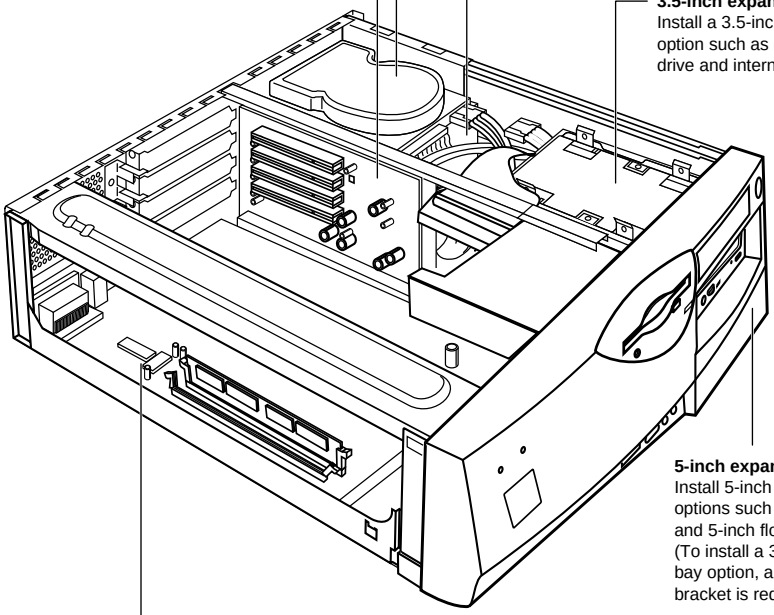
**Mouse connector ( : MOUSE)**
The heat within the PC main unit is ventilated through these holes. Keep them free.

**DVI Connector**
Connect the display cable conforming to DVI standard

**LAN connector ( : NETWORK)**
Connect the LAN cable.

**USB connector**
Connect the peripherals conforming to the USB standard.

## ■ Inside the PC main unit



**Riser board**
Connectors for expansion cards and IDE connectors are installed.

**Internal hard disk**
IDE-standard hard disk. You can replace it with a hard disk with larger capacity.

**Power supply unit**

**3.5-inch expansion bay**
Install a 3.5-inch expansion bay option such as magneto-optic disk drive and internal hard disk.

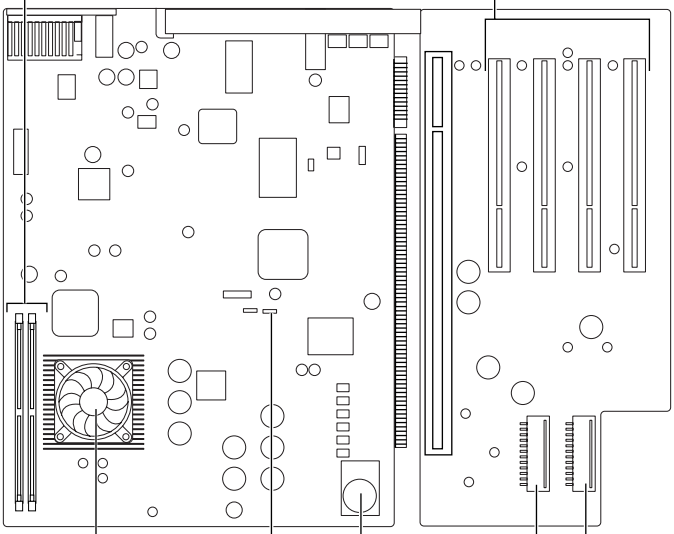
**5-inch expansion bays (2)**
Install 5-inch expansion bay options such as CD-ROM drive and 5-inch floppy disk drive. (To install a 3.5-inch expansion bay option, a retaining metal bracket is required.)

**Motherboard**
The CPU and DIMM slot are installed. It controls the main functions of the PC.

## ■ Motherboard/riser board

**DIMM slot**
Insert a memory module.
The slots are placed in the order of DIMM1 and DIMM2 from the right.

**Expansion slot**
Insert various option cards to extend the functions of the PC.
The slots are placed in the order of ISA1 (half), ISA2 (full), PCI1 (full), and PCI2 (full) from the right.



**CPU**

**JP3 jumper switch**
Set whether to enable the password.

**Internal battery**
The battery is used to store the setup of the PC. The life span of the battery is about five years under normal use condition (8 hours per day). If the upper cover of the PC main unit is left removed, the internal battery life will shorten. Keep the duration when the upper cover is left removed at minimum requirement such as only for installing internal options.

**Primary IDE connector**
Connect the hard disk for starting the operating system.

**Secondary IDE connector**

**Floppy disk drive connector**

**: Position of pin 1**

# 2 Standard Specifications

## ■ PC main unit specifications

| **Product name** | | **DESKPOWER 5000** |
|---|---|---|
| CPU | | Pentium III or Celeron |
| BIOS ROM | | 512 KB (FLASH ROM) |
| System RAM | | SDRAM DIMM with 168-pin parity (Supporting ECC)<br>Up to 512 MB |
| Floppy disk | | 3.5-inch disk drive x 1 |
| Hard disk | | 10.2/20.4GB (Ultra DMA66) or higher capacity |
| CD-ROM | | Optional |
| Graphics | | Intel 810E with DVMT |
| Sound | | Crystal 4281 + 4297A (Integrated PCI) |
| I/F | CRT | VGA/SVGA D-SUB 15 pin |
| | USB | 2 ports (4 pins) (One of the ports is on the front.) |
| | Keyboard | PS/2 type Mini DIN 6 pin |
| | Mouse | PS/2 type Mini DIN 6 pin |
| | Serial port | Asynchronous RS-232C x 2 D-SUB 9 pin |
| | Parallel port | Conforming to Centronics D-SUB 25 pin |
| | LAN | Intel 82559 100 BASE-TX/10 BASE-T (WAKEUP ON LAN function provided) |
| | Audio | Front: Microphone input, headphone output<br>Rear: Line input, line output, speaker output |
| Error monitor function | | CPU fan stop/CPU temperature error/voltage abnormality monitor within the motherboard |
| Number of expansion slots | | 4 X PCI |

| Product name | DESKPOWER 5000 | | |
|---|---|---|---|
| Number of Storage bays | 5 | Rear: | 3.5-inch hard disk (standard feature) |
| | | Front center: | 3.5-inch floppy disk drive (standard feature) |
| | | Front upper: | 3.5-inch expansion bay |
| | | Front middle: | 5-inch expansion bay (CD-ROM installed as an option) |
| | | Front lower: | 5-inch expansion bay |
| Power supply/ frequency | 100/230 VAC 50/60Hz | | |
| Power consumption | Up to 75 W | | |
| Weight | About 12 kg | | |
| External dimensions | 415 mm × 440 mm × 139 mm (W × D × H) | | |
| Use environment | Temperature: 10 to 35 ˚C, humidity: 20 to 80% (RH) | | |

## Point

Note that the specifications of the PC main unit may change without prior notice.

## ■ LAN adapter specifications

| **LAN controller** | **Intel 82559** |
|---|---|
| Send and receive buffer RAM | 3 kB each for send and receive |
| External interface | ISO8802-3 100BASE-TX/10BASE-T |
| Transmission media | Twisted pair cable[*1]<br>(100 Mbps: Category 5, 10 Mbps: Categories 3 to 5) |
| Transmission method | Base band |
| Access method | CSMA/CD |
| Data transfer speed | 100Mbps, 10Mbps |
| Maximum segment length | 100m |
| Maximum number of nodes/segment | Depends on the hub unit[*2] |

[*1] To successfully operate the network at 100 Mbps, use an unshielded twisted pair cable (UTP) with a data grade of category 5 or higher. If a cable classified as category 3 is used, data is lost.
[*2] The hub unit is a concentrator of 100BASE-TX/10BASE-T.

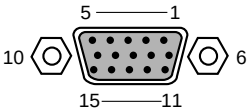
## ■ Sound specifications

| **Product name** | | **Manufactured by Crystal CS4280 + CS4297 (AC97)** |
|---|---|---|
| Sound section | Interrupt request level | One IRQ is used. |
| | Sampling rate | 5 to 48 kHz |
| External interface | | Line input, microphone input, line output, speaker output, headphone output |

## ■ Connector specifications

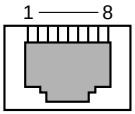
The pin arrangement and signal names of each connector are as follows:

### ● CRT connector



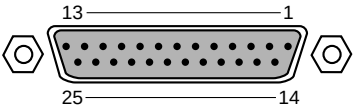

| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | RED | Output | Red output |
| 2 | GREEN | Output | Green output |
| 3 | BLUE | Output | Blue output |
| 4 | NC | – | Not connected |
| 5 to 8 | GND | – | Ground |
| 9 | +5V | – | +5V |
| 10 | GND | – | Ground |
| 11 | NC | – | Not connected |
| 12 | SDA | Input/output | Data |
| 13 | HSYNC | Output | Horizontal synchronous signal |
| 14 | VSYNC | Output | Vertical synchronous signal |
| 15 | SCL | Input/output | Data clock |

### ● LAN connector (100BASE-TX/10BASE-T)



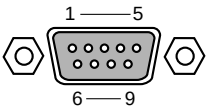

| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | TD+ | Output | Send data+ |
| 2 | TD- | Output | Send data- |
| 3 | RD+ | Input | Receive data+ |
| 4 | NC | – | Not connected |
| 5 | NC | – | Not connected |
| 6 | RD- | Input | Receive data- |
| 7 | NC | – | Not connected |
| 8 | NC | – | Not connected |

## ● Parallel connector



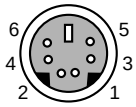

| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | STROBE | Input/output | Strobe |
| 2 | DATA0 | Input/output | Data0 |
| 3 | DATA1 | Input/output | Data1 |
| 4 | DATA2 | Input/output | Data2 |
| 5 | DATA3 | Input/output | Data3 |
| 6 | DATA4 | Input/output | Data4 |
| 7 | DATA5 | Input/output | Data5 |
| 8 | DATA6 | Input/output | Data6 |
| 9 | DATA7 | Input/output | Data7 |
| 10 | ACK | Input | Acknowledge |
| 11 | BUSY | Input | Busy |
| 12 | PE | Input | Out of paper |
| 13 | SELECT | Input | Select |
| 14 | AUTOFD | Output | Automatic feed |
| 15 | ERROR | Input | Error |
| 16 | INIT | Output | Initialization |
| 17 | SLCTIN | Output | Select |
| 18 to 25 | GND | – | Ground |

## ● Serial connector



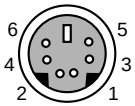

| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | CD | Input | Carrier detection |
| 2 | RD | Input | Receive data |
| 3 | TD | Output | Send data |
| 4 | DTR | Output | Data terminal ready |
| 5 | GND | – | Ground |
| 6 | DSR | Input | Data set ready |
| 7 | RTS | Output | Send request |
| 8 | CTS | Input | Send enabled |
| 9 | RI | Input | Ring indication |

● **Mouse connector**



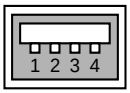

| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | DATA | Input/output | Data |
| 2 | NC | – | Not connected |
| 3 | GND | – | Ground |
| 4 | VCC | – | Power supply |
| 5 | CLK | Input/output | Clock |
| 6 | NK | – | Not connected |

● **Keyboard connector**




| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | DATA | Input/output | Data |
| 2 | NC | – | Not connected |
| 3 | GND | – | Ground |
| 4 | VCC | – | Power supply |
| 5 | CLK | Input/output | Clock |
| 6 | NK | – | Not connected |

● **USB connector (SeriesA)**




| Pin no. | Signal name | Direction | Description |
|---|---|---|---|
| 1 | VCC | – | Cable, power supply |
| 2 | -DATA | Input/output | - data signal |
| 3 | +DATA | Input/output | + data signal |
| 4 | GND | – | Cable, ground |

# 3 Cleaning Method

How to clean the PC is explained as follows:

**⚠WARNING**

Electric shock

- To prevent electric shock, before cleaning the PC, switch off the PC and all connected units and unplug all power cords.

## ■ Cleaning the PC main unit

- Wipe the PC main unit with a soft dry cloth. If necessary use a damp cloth but do not permit moisture to come into contact with the PC main unit.
- Periodically vacuum dust around ventilation holes with a vacuum cleaner to prevent the blocking of ventilation holes by dust.

## ■ Cleaning the keyboard

Wipe the keyboard with a soft dry cloth.

## ■ Cleaning a CD-ROM

Wipe the CD-ROM disk, proceeding from the center to the rim, with a soft dry cloth. If necessary use a damp cloth followed by a soft dry cloth.

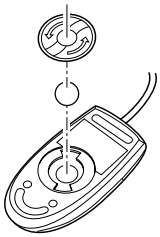
## ■ Cleaning the mouse

Use a soft dry cloth. If the ball does not roll smoothly, remove the ball and clean. To clean the ball proceed as follows:

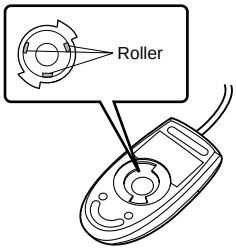
***1*** **Remove the back cover of the mouse.**

Turn the back cover of the mouse in the direction of the arrow to remove.

***2*** **Remove the ball and clean with water.**
Reverse the mouse to remove the ball, then clean the ball with water.



***3*** **Clean the inside of the mouse.**
Wipe the inside of the mouse, the rollers, and the back cover with a damp cloth.




***4*** **Attach the ball and the back cover.**
After drying the ball and the inside of the mouse, attach the ball and back cover.

## ■ Cleaning a floppy disk drive

The head (component for reading and writing data) of a floppy disk drive becomes dirty after extended periods of use, thereby preventing efficient data reading or writing operations. Use the cleaning disk to clean the head every three months.

### ● For Windows 9X/NT model:

Mount the cleaning disk in a disk drive
Enter a disk-access command such as "dir" at the command prompt of Windows.
Example: Enter a command as follows and press the [Enter] key.

```
dir  a:
```

# 4 Supplement

## ■ Peripheral devices and cables

When peripheral devices or cables are connected to the PC, use Fujitsu-supplied devices and cables, as some non-Fujitsu devices and cables may not be connectable.

## ■ Note on using the display

The vertical and horizontal lines displayed by a CAD application may appear different in width depending on the setting of the resolution of the display used. Adjust the setting correctly before using.

## ■ Note on using an analog liquid crystal display

- Connect a digital liquid crystal display to the PC and turn on the display power, then turn onthe PC power.
- If the digital liquid crystal display is connected to the PC or turned on after the PC power is turned on, the display screen may remain blank.
- The PC does not support to connect both of analog display and digital simultaneously. Use either of them.
- When digital display is used, set the resolution to up to 1024 X 768. The PC does not support the resolution more than this value.

### Display disturbed when the screen mode is changed

The screen display may experiance disturbance temporariry or horizontal lines may appear on the screen when the screen display begins or ends or when the display mode changes, such as when Windows starts or ends or when the normal display mode is restored from the power save mode. These disturbances are not considered faults.

## ■ Digital display output

Digital display output is not compatible with a monitor exceeding XGA (1024X 768 pixels) resolution. Use an XGA or low-resolution monitor.

## ■ Replacing the display

If the display is replaced with a different type of display (especially a liquid crystal dispaly), a display error such as blank screen may occur. If so, replace the display according to the following procedure:

**Windows 98/2000**

1. **Set the resolution to 640 x 480 (before replacement of the display).**
2. **Set the refresh rate to the "adapter default."**
3. **Terminate Windows and turn off the PC power, then replace the display.**

If there is no screen display or no display at some resolutoion after the display is replaced without performing the above setting, reinstall the display driver as follows:

1. **Start Windows in Safe Mode.**
2. **Set the graphic adapter to "Standard Display Adapter (VGA)" or "Standard VGA" and restart Windows.**
3. **Reinstall the display driver.**

**Windows NT4.0 model**

1. **Turn off the power, then replace the display.**
2. **Start the PC with Windows NT Workstation Version 4.00 [VGA mode].**
3. **Set the resolution, the number of colors, and the refresh rate in accordance with the display specifications, then restart the PC.**

## ■ Display and power save mode

**Windows 98 model**

When a display that does not support the power save mode is used, open to "Power Management Properties" and set "Never" for both "System Standby" and "Turn off Monitor Power."

**Windows 2000 model**

When a display that does not support the power save mode is used,open to "Power Options Properties" and set "Never" for both "System Standby" and "Turn off monotor".

## ■ About USB (Windows 98/2000)

**USB stands for Universal Serisl Bus, which standardizes mouse. keyboard, printer, modem, and speaker interfaces.**

### ⊙ Point

- Some types of peripheral devices that support USB require special device drivers to be installed.
- The OSs that support USB are Windows 98/2000.
- When USB equipment is connected, Windows may not be terminated normally depending on the type od USB equipment. If this is the case, disconnect the USB equipment and terminate Windows.

## ■ Wake up On LAN

When "Wake-up from LAN" under "Automatic wake-up" of the power save menu in the BIOS Setup is set to "Enable," the PC power can be tuned on via a LAN(WOL: Wake up On LAN). To use this function , always turn on the PC power once after the power cable is connected. The function may not operate normally only if the power cable is connected.

## ■ Power Saving Function

Application operation becomes unstable if the power save function works during the following types of operation. Disable the power save function for these types of operation.

- Playing back a Wave, MIDI, AVI, MPEG, or DAT file
- Playing back a music CD
- Recording by a sound recorder

## ■ LAN Cable

The LAN built in this PC as standard equipment supports 100BASE-TX and 10BASE-T. Check the speed of the network to which the PC is to be connected and use the following type of cable in accordanc with the speed: Use a Fujitsu-supplied cable to minimize network trouble.

- 100BASE-TX: Unsealed twisted paired-cable(UTP) at category 5 or a higher data grade
- 10BASE-T: UTP at category 3,4, or 5 data grade.

### ⊙ Point

- The Standard equipment LAN of this PC automatically adjusts to the network speed. If the network speed changes, for example, because of hub unit replacement, use an adequate data grade cable compatible with the speed.

## ■ LAN Adapter

This PC dows not allow that plural LAN adapters are used simultaneously by adding LAN adapters on Windows 98, Windows NT4.0 worstation and Windows 2000 Professional models. In order to use plural LAN adapters simultaneously, server OS such as Windows NT4.0 server and Windows 2000 server is needed.

## ■ USB Keyboard (Windows 98 model)

If "Enable shortcut key" is turned on in [Control Panel]-[Accessibility]-[Filter Function]-[Settings], the shortcut key function does not work and "Enabled filter key function" cannot be turned on even if the "right shift" key is pressed for 8 or more seconds. Turn on the checkbox of "Enable filter key function" using the mouse.

## ■ CD-ROM drive

If a CD-ROM cleaning disk sold separately is used for cleaning, the lens may not be clean. Do not use a CD-ROM cleaning disk.

## ■ Intel® processor serial number

Each Intel® Pentium® III processor contains a serial number that can be read electrically. The processor serial number can be used for information management, resource management, and security improvement on the web.

The user can read the processor serial number using software. The software read function can be enabled or disabled using the BIOS Setup. The PC is shipped with this function disabled. To enabled the function, set "Processor serial number" in the main menu of the BIOS Setup to "Enable."

## ■ Mouse with scroll function(wheel)

When a USB keyboard and a mouse (PS/2) with the scroll function are used under Windows 98/ 2000, connect the mouse connector on the USB keyboard. If the mouse is connected to the mouse connector on the PC, the mouse may not operate when Windows 98 is started in safe Mode.

Fujitsu PC (Asia) Pte Ltd
200 Pandan Loop
#05-03 Pantech 21
The Computer Centre
Singapore 128388
Tel: 65-776 0688
Fax: 65-776 0788

Fujitsu PC (Asia) Pte Ltd
(Malaysia Branch)
8th Floor Wisma Damansara
Jalan Semantan
50490 Kuala Lumpur
Malaysia
Tel: 603-253 3997
Fax: 603-253 4245

Website : www.fujitsu-pc-asia.com